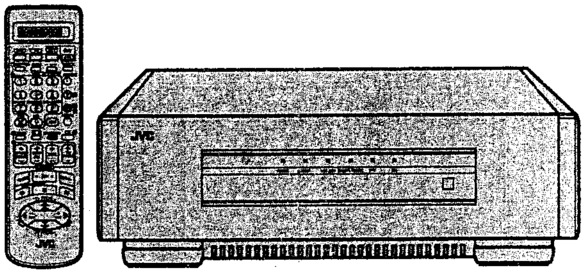
JVC

SERVICE MANUAL

D-VHS DIGITAL RECORDER

HM-DR10000EK



VIDEO Plus+®

Hi-Fi D VHS MTP PAL

SPECIFICATIONS

GENERAL

Power requirement : AC 220 – 240 V∿, 50/60 Hz
Power consumption
  Power on : 36 W
  Power off : 8.7 W
Temperature
  Operating : 5°C to 40°C
  Storage : –20°C to 60°C
Operating position : Horizontal only
Dimensions (WxHxD) : 468 x 145 x 369 mm
Weight : 8.0 kg
Maximum recording time
  D-VHS (STD) : 420 min. with DF-420 video cassette
  D-VHS (LS3) : 1260 min. with DF-420 video cassette
  S-VHS/VHS (SP) : 240 min. with E-240 video cassette
  S-VHS/VHS (LP) : 480 min. with E-240 video cassette

VIDEO/AUDIO (D-VHS)

Format : MPEG2 standard mode
Track composition
  Tape speed : 16.67 mm/sec (STD mode)
  5.56 mm/sec (LS3 mode)
  Head azimuth : ±30 deg
  Drum rotation : 1800 rpm
  Tracking system : CTL track system
Recording specification
  Main data input rate : 14.1 Mbps (STD mode)
  4.7 Mbps (LS3 mode)
  Sub data input rate : 0.146 Mbps (STD mode)
  48.7 Kbps (LS3 mode)
  Recording rate : 19.14 Mbps
  Track structure : 1 Sector
  Length of sync block : 112 bytes
  Inner ECC : RS code
  Outer ECC : RS code
  Code word shuffling : 6 tracks
  Modulation system : SI-NRZI

VIDEO/AUDIO

Format : S-VHS/VHS PAL standard
Signal system : PAL-type colour signal and CCIR monochrome signal, 625 lines/50 fields
Recording system : DA4 (Double Azimuth) helical scan system
Signal-to-noise ratio : 45 dB
Horizontal resolution : 250 lines (VHS)
400 lines (S-VHS)
Frequency range : 70 Hz to 10,000 Hz (Normal audio)
20 Hz to 20,000 Hz (Hi-Fi audio)

CONNECTOR

Input/Output : 21-pin SCART connectors
(IN/OUT x 1, IN/DECODER x 1)
RCA connectors
(VIDEO IN x 1, AUDIO IN x 2, AUDIO OUT x 1)
S-Video connectors (IN x 2, OUT x 1)
DV connector : IN x 1
(4-pin, IEEE1394 conformity, digital input)

TUNER/TIMER

TV channel storage capacity : 99 positions (+AUX position)
Tuning system : Frequency synthesized tuner
Channel coverage : VHF 44.5 – 143/143 – 470 MHz
UHF 470 – 862 MHz
Memory backup time : Approx. 60 min.

ACCESSORIES

Provided accessories : RF cable,
S-Video cable,
21-pin SCART cable,
DV cable,
Power cord,
Infrared remote control unit,
"AA" battery x 2

Specifications shown are for SP mode unless otherwise specified.
E.& O.E. Design and specifications subject to change without notice.

MC-Service

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Safety Precautions

1. This design of this product contains special hardware and many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorised in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits.
2. Any unauthorised design alterations or additions will void the manufacturer's guarantee ; furthermore the manufacturer cannot accept responsibility for personal injury or property damage resulting therefrom.
3. Essential safety critical components are identified by (⚠) on the Parts List and by shading on the schematics, and must never be replaced by parts other than those listed in the manual. please note however that many electrical and mechanical parts in the product have special safety related characteristics. These characteristics are often not evident from visual inspection. Parts other than specified by the manufacturer may not have the same safety characteristics as the recommended replacement parts shown in the Parts List of the Service manual and may create shock, fire, or other hazards.
4. The leads in the products are routed and dressed with ties, clamps, tubings, barriers and the like to be separated from live parts, high temperature parts, moving parts and/or sharp edges for the prevention of electric shock and fire hazard. When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after re-assembling.

Warning

1. Service should be performed by qualified personnel only.
2. This equipment has been designed and manufactured to meet international safety standards.
3. It is the legal responsibility of the repairer to ensure that these safety standards are maintained.
4. Repairs must be made in accordance with the relevant safety standards.
5. It is essential that safety critical components are replaced by approved parts.
6. If mains voltage selector is provided, check setting for local voltage.

Safety Precautions

The rating plate and the safety caution are on the rear of the unit.

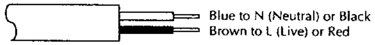
WARNING: DANGEROUS VOLTAGE INSIDE
WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.

IMPORTANT

- Please read the various precautions on p. 2 – 4 of this instruction manual before installing or operating the recorder.
- It should be noted that it may be unlawful to re-record pre-recorded tapes, records, or discs without the consent of the owner of copyright in the sound or video recording, broadcast or cable programme and in any literary, dramatic, musical, or artistic work embodied therein.

IMPORTANT

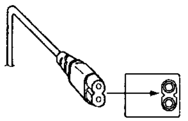
Connection to the mains supply in the United Kingdom.
DO NOT cut off the mains plug from this equipment. If the plug fitted is not suitable for the power points in your home or the cable is too short to reach a power point, then obtain a proper safety approved extension lead/adapter or consult your dealer.
In the unlikely event of the plug fuse failing be sure to replace the fuse only with an identical approved type, as originally fitted, and to replace the fuse cover. If the fuse fails again consult your nearest JVC dealer.
If nonetheless the mains plug is cut off remove the fuse and dispose of the plug immediately, to avoid a possible shock hazard by inadvertent connection to the mains supply.
If this product is not supplied fitted with a mains plug then follow the instructions given below:
DO NOT make any connection to the Larger Terminal coded E or Green.
The wires in the mains lead are coloured in accordance with the following code:



If these colours do not correspond with the terminal identifications of your plug, connect as follows:
Blue wire to terminal coded N (Neutral) or coloured Black.
Brown wire to terminal coded L (Live) or coloured Red.
If in doubt — consult a competent electrician.

CAUTION

- To avoid electric shock or damage to the unit, first firmly insert the small end of the mains power cord into the recorder until it is no longer wobbly, and then plug the larger end of the mains power cord into a mains outlet.
- When you are not using the recorder for a long period of time, it is recommended that you disconnect the power cord from the mains outlet.
- Dangerous voltage inside. Refer internal servicing to qualified service personnel. To prevent electric shock or fire hazard, remove the power cord from the mains outlet prior to connecting or disconnecting any signal lead or aerial.



D-VHS MTP PAL VIDEO Plus+®

- Cassettes marked "D-VHS", "S-VHS" and "VHS" can be used with this video cassette recorder. However, D-VHS recordings are possible only with cassettes marked "D-VHS".
- D-VHS is a new digital memory system that uses D-VHS tapes. D-VHS was developed as a memory system for multimedia applications that require storage for large volumes of information, such as for digital video.
- VIDEO Plus+ and PlusCode are registered trademarks of Gemstar Development Corporation. The VIDEO Plus+ system is manufactured under license from Gemstar Development Corporation.

The STANDBY/ON ⏻/I button does not completely shut off mains power from the unit, but switches operating current on and off. " ⏻ " shows electrical power standby and " I " shows ON.

Video tapes recorded with this video recorder in the LP (Long Play) mode cannot be played back on a single-speed video recorder.

Failure to heed the following precautions may result in damage to the recorder, remote control or video cassette.

1. **DO NOT place the recorder . . .**
   ... in an environment prone to extreme temperatures or humidity.
   ... in direct sunlight.
   ... in a dusty environment.
   ... in an environment where strong magnetic fields are generated.
   ... on a surface that is unstable or subject to vibration.
2. **DO NOT block the recorder's ventilation openings.**
3. **DO NOT place heavy objects on the recorder or remote control.**
4. **DO NOT place anything which might spill on top of the recorder or remote control.**
5. **AVOID violent shocks to the recorder during transport.**

MOISTURE CONDENSATION

Moisture in the air will condense on the recorder when you move it from a cold place to a warm place, or under extremely humid conditions—just as water droplets form in the surface of a glass filled with cold liquid. Moisture condensation on the head drum will cause damage to the tape. In conditions where condensation may occur, keep the recorder turned on for a few hours to let the moisture dry.

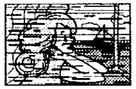
ABOUT HEAD CLEANING

After an extended period of use, the video heads can become dirty, resulting in a loss of picture or sound during playback. If this happens, clean the video heads by using the optional cleaning tapes.

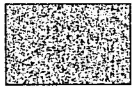
Symptoms of dirty video heads:

- The picture is not clear, or does not appear. There is no sound.
- Mosaic (block) noise appears in the picture.
- Black or mosaic horizontal stripes appear in the picture.
- The picture stops (as if the tape is paused).
- A blank black or blue screen appears.
- The picture is fuzzy. (VHS playback)

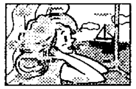
VHS playback

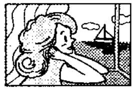

Early symptom

→


Late symptom

D-VHS playback


Block noise


Still image

Black screen

Use a cleaning tape designed specifically for D-VHS video heads (JVC D-VHS video head cleaner DFC-2) to clean the video heads.

- In order to avoid misoperation, set "NAVIGATION" to "OFF" (☞ pg. 25).
- Follow the instructions that are provided with the cleaning tape.

If you still do not get a clear picture after using a cleaning tape:

- The heads may be worn. Contact your nearest JVC dealer.
- During VHS playback, if there is a tracking problem, the picture may appear fuzzy. Adjust the tracking manually (☞ pg. 36).

Some Do's And Don'ts On The Safe Use Of Equipment

This equipment has been designed and manufactured to meet international safety standards but, like any electrical equipment, care must be taken if you are to obtain the best results and safety is to be assured.

DO read the operating instructions before you attempt to use the equipment.

DO ensure that all electrical connections (including the mains plug, extension leads and interconnections between pieces of equipment) are properly made and in accordance with the manufacturer's instructions. Switch off and withdraw the mains plug when making or changing connections.

DO consult your dealer if you are ever in doubt about the installation, operation or safety of your equipment.

DO be careful with glass panels or doors on equipment.

DON'T continue to operate the equipment if you are in any doubt about it working normally, or if it is damaged in any way — switch off, withdraw the mains plug and consult your dealer.

DON'T remove any fixed cover as this may expose dangerous voltages.

DON'T leave equipment switched on when it is unattended unless it is specifically stated that it is designed for unattended operation or has a standby mode. Switch off using the switch on the equipment and make sure that your family knows how to do this. Special arrangements may need to be made for infirm or handicapped people.

DON'T use equipment such as personal stereos or radios so that you are distracted from the requirements of road safety. It is illegal to watch television whilst driving.

DON'T listen to headphones at high volume, as such use can permanently damage your hearing.

DON'T obstruct the ventilation of the equipment, for example with curtains or soft furnishings. Overheating will cause damage and shorten the life of the equipment.

DON'T use makeshift stands and NEVER fix legs with wood screws — to ensure complete safety always fit the manufacturer's approved stand or legs with the fixings provided according to the instructions.

DON'T allow electrical equipment to be exposed to rain or moisture.

ABOVE ALL...

- — **NEVER** let anyone especially children push anything into holes, slots or any other opening in the case — this could result in a fatal electrical shock;
- — **NEVER** guess or take chances with electrical equipment of any kind — it is better to be safe than sorry!

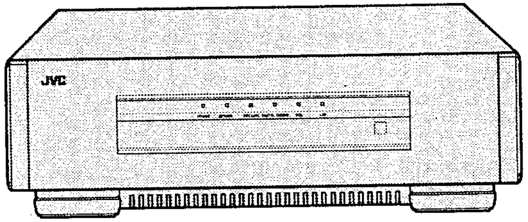
► Dear Customer,

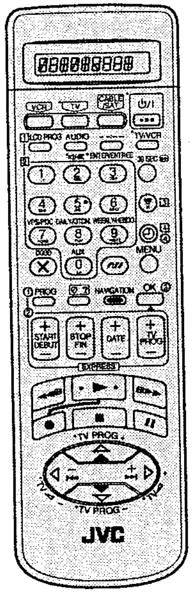
Thank you for purchasing this JVC Video Cassette Recorder.
Please use this **QUICK SET UP GUIDE** to help you to set up your video cassette recorder.

STEP 1 CHECK THE CONTENTS

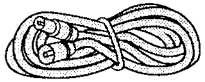
CHECK ALL THE CONTENTS SHOWN BELOW

Video Cassette Recorder

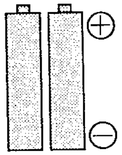




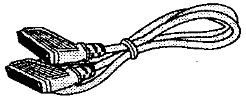
Infrared Remote Control Unit



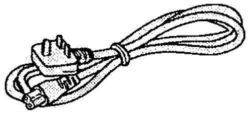
RF Cable



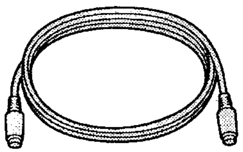
"AA" Batteries (x 2)



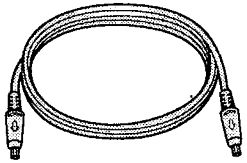
21-pin SCART Cable



Power Cord



S-Video Cable



DV Cable

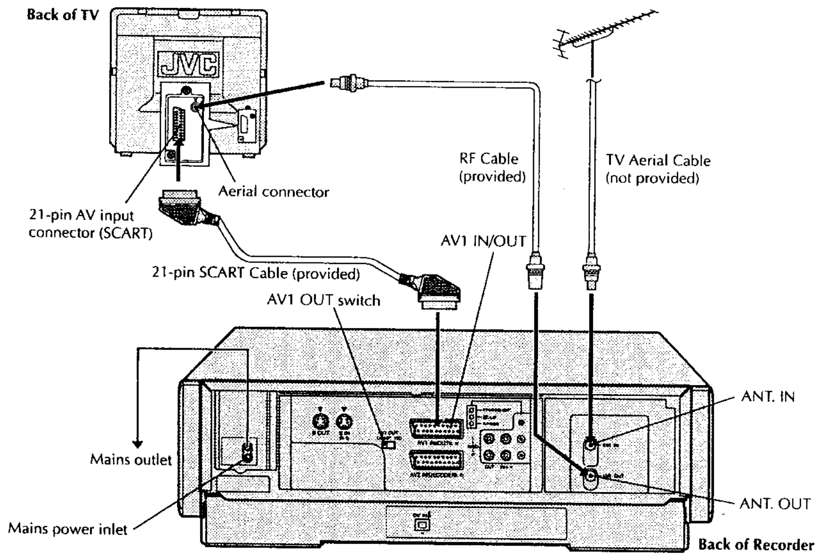
► You are now ready to install your video recorder.

STEP **2**

INSTALLATION

CONNECT VIDEO RECORDER TO TV

► Place the recorder on a stable, flat surface.


Back of TV
JVC
RF Cable (provided)
TV Aerial Cable (not provided)
Aerial connector
21-pin AV input connector (SCART)
AV1 IN/OUT
21-pin SCART Cable (provided)
AV1 OUT switch
ANT. IN
Mains outlet
ANT. OUT
Mains power inlet
Back of Recorder

ATTENTION:

You can not use the recorder connected to your TV only with the RF cable. This is because the RF cable does not deliver signal from the recorder. Your TV must have a 21-pin AV input connector (SCART) to connect to the recorder.

AV CONNECTION

To connect to a TV with 21-pin AV input connector (SCART) . . .

1– Disconnect the TV aerial cable from the TV.

2– Connect the TV aerial cable to the ANT. IN jack on the rear panel of the recorder.

3– Connect the provided RF cable between the ANT. OUT jack on the rear panel of the recorder and the TV's aerial connector.

4– Connect the provided SCART cable between the AV1 IN/OUT socket on the rear panel of the recorder and the TV's 21-pin AV input connector (SCART).

5– Set the **AV1 OUT** switch to the appropriate position. See "AV1 INPUT/OUTPUT SIGNAL SELECTION FOR AV CONNECTION" below.

AV1 INPUT/OUTPUT SIGNAL SELECTION FOR AV CONNECTION

The AV1 IN/OUT connector accepts and delivers either a composite signal (regular video signal) or a Y/C signal (a signal in which the luminance and chrominance signals are separated). For input signal selection, select "VIDEO" (regular video signal) or "S-VIDEO" (Y/C signal) for "AV1 SELECT" setting (☞ pg. 50). For output signal selection, use the **AV1 OUT** switch on the rear panel.

- If your TV's 21-pin AV input connector (SCART) is compatible only with the regular video signal, set this switch to COMP.
- If your TV's 21-pin AV input connector (SCART) is compatible with the Y/C signal, set this switch to Y/C. You can obtain high-quality S-VHS pictures. (For connection, be sure to use a 21-pin SCART cable that is compatible with the Y/C signal.)

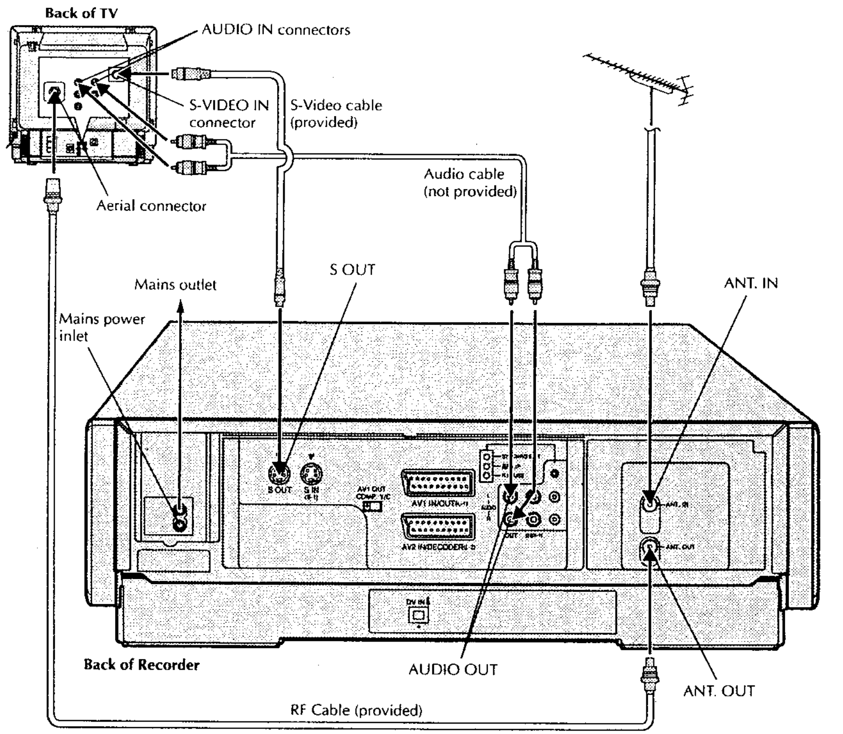
NOTES:

- *Set your TV to the VIDEO (or AV), Y/C, or RGB mode according to the type of your TV's SCART connector.*
- *For switching the TV's mode, refer to the instruction manual of your television.*
- *To obtain high-quality S-VHS pictures, you can also use the S-VIDEO CONNECTION described on page 7.*

ATTENTION

■ Do NOT plug the mains power cord into a mains outlet until all connections are completed.

■ Do NOT press the ⏻/I button on the recorder or on the remote control to turn on the recorder's power before you start the Auto Set Up procedure described on page 8.


Back of TV
AUDIO IN connectors
S-VIDEO IN connector
S-Video cable (provided)
Aerial connector
Audio cable (not provided)
Mains outlet
S OUT
ANT. IN
Mains power inlet
Back of Recorder
AUDIO OUT
ANT. OUT
RF Cable (provided)

S-VIDEO CONNECTION

To connect to a TV with S-VIDEO/AUDIO IN connectors . . .

1– Connect the aerial, recorder and TV as per "AV CONNECTION" (☞ pg. 6).

2– Connect the recorder's S OUT connector to the TV's S-VIDEO IN connector.

3– Connect the recorder's AUDIO OUT connectors to the TV's AUDIO IN connectors.

NOTES:

- *You can obtain high-quality S-VHS pictures.*
- *If your television is not stereo-capable, use the recorder's AUDIO OUT connectors to connect to an audio amplifier for Hi-Fi stereo sound reproduction. (☞ pg. 57)*
- *To operate the recorder with your TV using the S-VIDEO connection, set your TV to the AV mode.*
- *For switching the TV's mode, refer to the instruction manual of your television.*

ATTENTION

■ Do NOT plug the mains power cord into a mains outlet until all connections are completed.

■ Do NOT press the ⏻/I button on the recorder or on the remote control to turn on the recorder's power before you start the Auto Set Up procedure described on page 8.

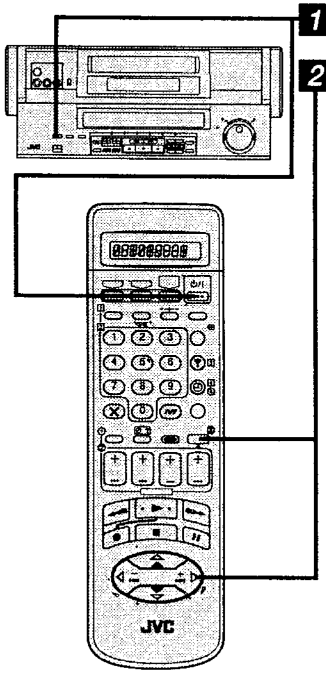
AFTER YOU FINISH THIS STEP ▷ *Go to Step 3 – AUTO SET UP*

STEP 3 AUTO SET UP

SET THE TUNER CHANNELS, CLOCK AND GUIDE PROGRAM NUMBERS

The Auto Set Up function sets the tuner channels, clock and Guide Program numbers assigned by the VIDEO Plus+ system automatically the first time the ⏻/I button on the recorder or on the remote is pressed to turn on the recorder after the mains power cord has been plugged into a mains outlet.

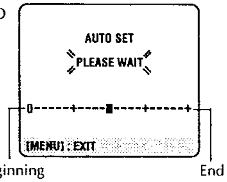
Before performing the following procedure, make sure that:
- the TV aerial cable is connected to the recorder.
- the mains power cord is plugged into the mains outlet.
- batteries have been installed in the remote control.



1 Press ⏻/I to turn on the recorder.

2 If "Auto" appears on the display panel, press **OK** or ▷. "Auto" blinks; do NOT press any button on the recorder or remote control until the display panel shows clock time, "(PR) 1" or "– –:– –" as illustrated on page 10. Auto Set Up usually takes about 4 – 12 minutes; the duration varies by area.

- If you are using the on-screen display, the AUTO SET screen will appear. As Auto Set Up progresses, the "█" mark on the screen moves from left to right.



Beginning End

ATTENTION

Once you have performed Auto Set Up, all the stored stations and Guide Program numbers remain in the recorder's memory and the recorder will not perform Auto Set Up again. If there is a power cut and the recorder's memory backup expires you only need to reset the clock. (☞ pg. 66)

If you have moved to a different area, perform each setting as required.
- Tuner setting ☞ pg. 58
- Clock setting ☞ pg. 66

If a new station begins broadcasting in your area, perform tuner setting (☞ pg. 58).

NOTES:
- *Auto channel set function takes place first; it assigns automatically all receivable stations in your area.*
- *Auto clock set function sets the clock automatically.*
- *During auto channel set, the recorder recognizes each station name of the detected stations and stores them in the recorder's memory, then automatically sets the Guide Program numbers assigned by the VIDEO Plus+ system for those stations according to the broadcast area.*
- *If there is a power cut or if you press ⏻/I or **MENU** while Auto Set Up is in progress, Auto Set Up will be interrupted; be sure to turn off the recorder power once and press ⏻/I to turn the power back on in order to re-start Auto Set Up.*

PRESET DOWNLOAD

SET THE TUNER CHANNELS BY DOWNLOADING FROM YOUR TV, CLOCK AND GUIDE PROGRAM NUMBERS

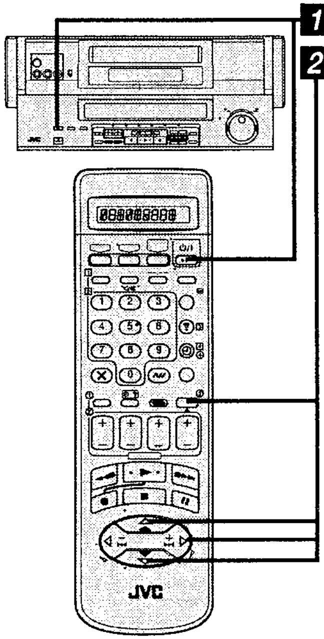
When you connect the recorder and your TV via fully-wired 21-pin SCART cable (☞ pg. 6), you can set the recorder's tuner channels by downloading preset data from your TV instead of using the Auto Set Up function (☞ pg. 8). After downloading is completed, the recorder sets the clock and Guide Program numbers assigned by the VIDEO Plus+ system automatically.
For details, refer to the instruction manual for your TV.

ATTENTION

You can use this function only with a TV offering T-V Link, etc.*

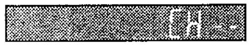
** Compatible with TVs offering T-V Link, EasyLink, Megalogic, SMARTLINK, Q-Link, DATA LOGIC or NEXTVIEWLINK via fully-wired 21-pin SCART cable. The degree of compatibility and available functions may differ by system.*

Before performing the following procedure, make sure that:
- the TV aerial cable is connected to the recorder and a 21-pin SCART cable is connected between your TV and the recorder.
- the mains power cord is plugged into the mains outlet.
- batteries have been installed in the remote control.

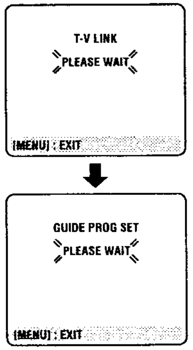


1 Press ⏻/I to turn on the recorder.

2 If "Auto" appears on the display panel, Press △▽ to select "CH – –" and press **OK** or ▷. Preset position on the display panel increases from "CH1"; do NOT press any button on the recorder or remote control until the display panel shows clock time, "(PR) 1" or "– –:– –" as illustrated on page 10.

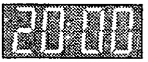


- If you are using the on-screen display, the T-V LINK screen will appear. Then the GUIDE PROG SET screen will appear during Guide Program number set.
- If you press any button on the recorder or remote control while downloading is in progress, this process will be interrupted and you will need to start again. See NOTES below.

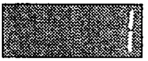


NOTES:
- *In areas where no TV station transmits the PDC signal, the recorder cannot perform either auto clock set or auto Guide Program number set.*
- *If there is a power cut, or if you press ⏻/I or **MENU** while downloading or set up is in progress, it will be interrupted; be sure to turn off the recorder power once and try again from the beginning.*
- *Auto clock may not function properly depending on reception conditions.*
- *When you perform T-V LINK function, be sure to use fully-wired 21-pin SCART cable.*
- *On this recorder, the characters available for station names (ID) are A–Z, 0–9, –, ✱, + and ␣ (space). The names of some downloaded stations may differ from those on your TV (☞ pg. 62).*

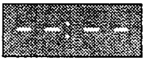
Auto Set Up results appear on the display panel

A 

When both auto channel set and auto clock set have been completed successfully the correct current time will be displayed.

B 

When auto channel set has been completed successfully but auto clock set has not, "(PR)1" will be displayed.

C 

When neither auto channel set nor auto clock set has been completed successfully, "– –:– –" will be displayed.

* You can check if the Guide Program numbers have been set correctly when you perform the VIDEO Plus+ Timer Programming (☞ pg. 18); if the correct preset position number is displayed in step **3**, this confirms that the Guide Program number for the PlusCode number you enter in step **2** has been set correctly.

A If both auto channel set and auto clock set have been performed successfully:

1. Turn on the TV and select its AV mode, then make sure that all necessary stations have been stored in the recorder's memory by using the **TV PROG** button(s).
   - If station names (ID — ☞ pg. 63) have also been stored in the recorder's memory, the station name will be displayed at the top left corner of the screen for about 5 seconds each time the recorder is tuned to a different station.
   - If you want to set the tuner manually such as to add or skip channels, to change preset positions, or to set or change station names, see pages 60 – 62.

Now you have finished the basic set up and can use your recorder for both playback and recording.

B If auto channel set has succeeded but auto clock set has not:

1. Turn on the TV and select its AV mode, then make sure that all necessary stations have been stored in the recorder's memory by using the **TV PROG** button(s).
   - If station names (ID — ☞ pg. 63) have also been stored in the recorder's memory, the station name will be displayed at the top left corner of the screen for about 5 seconds each time the recorder is tuned to a different station.
   - If you want to set the tuner manually such as to add or skip channels, to change preset positions, or to set or change station names, see pages 60 – 62.
2. Perform "Clock Set" on page 66.

Now you have finished the basic set up and can use your recorder for both playback and recording.

C If both auto channel set and auto clock set have failed:

1. Make sure the TV aerial cable is connected properly to the recorder and turn off the recorder power once, then turn the recorder power back on again.
2. Perform "Auto Set Up" on page 8 or "Preset Download" on page 9.

IMPORTANT

- In certain reception conditions, station names may not be stored correctly, and auto Guide Program Number Set may not work properly. If the Guide Program numbers are not set properly, when you timer-record a TV programme using the VIDEO Plus+ system, the recorder will record a TV programme of a different station. When programming the timer using the VIDEO Plus+ system, be sure to check that the preset position corresponding to the broadcasting station you wish to record has been selected (☞ pg. 18, "VIDEO Plus+® Timer Programming").
- Your video recorder memorizes all detected stations even if reception of some of them is poor. In these cases picture quality may be poor. To delete those stations which have an unacceptable picture ☞ "Delete A Channel" on page 61.
- If any of the above problems occur, refer to pages 60 – 62 to input station names (☞ "Set Stations") or delete unnecessary stations (☞ "Delete A Channel"). You can also change station preset positions (☞ "Change Station Preset Position").

If you have any difficulty with the above procedures call the JVC Customer Service Hot Line on 0208 208 7654

T-V Link Functions

When you connect the recorder and your TV via a fully-wired 21-pin SCART cable (☞ pg. 6), the following functions are available. You can use these functions only with a TV offering T-V Link, etc.*
For details, refer to the instruction manual for your TV.

** Compatible with TVs offering T-V Link, EasyLink, Megalogic, SMARTLINK, Q-Link, DATA LOGIC or NEXTVIEWLINK via fully-wired 21-pin SCART cable. The degree of compatibility and available functions may differ by system.*

NexTView Link

You can download the EPG (Electronic Programme Guide) information from your TV for timer-programming on the recorder.
For details, refer to the instruction manual for your TV.

TV Auto Power On

You can turn on the TV and set it to video mode automatically whenever you play a tape.
For details, refer to the instruction manual for your TV.

VCR Auto Standby

You can use your TV's remote control to turn off the recorder.
For details, refer to the instruction manual for your TV.

Direct Rec

You can start recording the programme that you are watching on your TV with simple operation. Press and hold **RECORD** and press **PLAY** on the remote control, or press **RECORD** on the recorder.
Follow the procedure below to use this function.

1 TURN ON THE RECORDER

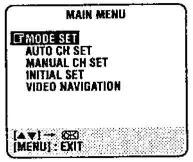
Press ⏻/I.

2 ACCESS MAIN MENU SCREEN

Press **MENU**.

3 ACCESS MODE SET SCREEN

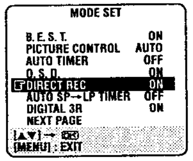
Press △▽ to move the highlight bar (pointer) to "MODE SET", then press **OK** or ▷.



MAIN MENU
☞MODE SET
AUTO CH SET
MANUAL CH SET
INITIAL SET
VIDEO NAVIGATION
[▲▼] → OK
[MENU] : EXIT

4 SELECT DIRECT REC MODE

Press △▽ to move the highlight bar (pointer) to "DIRECT REC", then press **OK** or ▷ to set to "ON".



MODE SET
B. E. S. T. ON
PICTURE CONTROL AUTO
AUTO TIMER OFF
O. S. D. ON
☞DIRECT REC ON
AUTO SP→LP TIMER OFF
DIGITAL 3R ON
NEXT PAGE
[▲▼] → OK
[MENU] : EXIT

5 RETURN TO NORMAL SCREEN

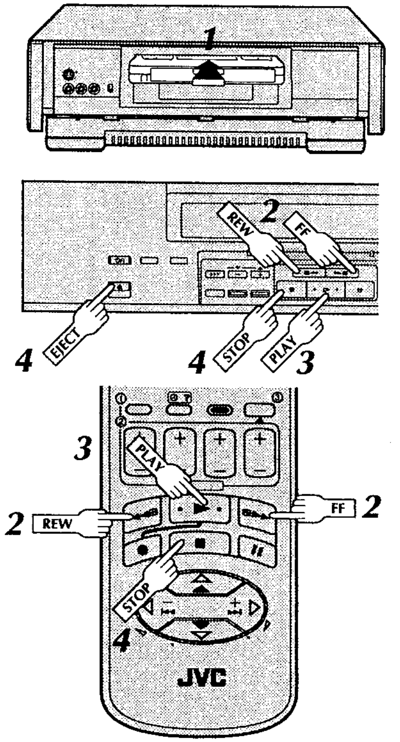
Press **MENU**.

NOTES:

- *If "DIRECT REC" is set to "OFF", the **RECORD** button functions as described in "Recording" (☞ pg. 14).*
- *During the Direct Rec, "– –" appears on the display panel.*
- *When you perform T-V LINK functions, be sure to use a fully-wired 21-pin SCART cable.*

Playback

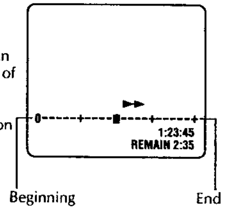
Turn on the TV and select the AV mode.



Tape Position Indicator

The tape position indicator appears on screen when, from the Stop mode, you press **FF**, **REW** or perform an Index Search. The position of "■" in relation to "0" (beginning) or "+" (end) shows you where you are on the tape.

"O.S.D." (☞ pg. 53) must be set to "ON", or the indicator will not appear.



NOTE:

Depending on the type of tape used, there may be times when the indication is not correct.

The easiest, most basic operation possible with your video recorder is tape playback. Already-recorded signals on a video tape are read by your video recorder and displayed on your TV just like a TV programme.

- This recorder can play back tapes that have been recorded in D-VHS (MTP), S-VHS and VHS formats.
- When playing back a tape, this recorder automatically identifies the recording format (D-VHS, S-VHS, or VHS).

1 LOAD A CASSETTE

Make sure the window side is up, the rear label side is facing you and the arrow on the front of the cassette is pointing towards the recorder. Don't apply too much pressure when inserting.

- The recorder power comes on automatically and the counter is reset to 0:00:00.
- While "– – – –" is blinking on the front display panel, the tape will run for a few seconds to search for the tape number.
- If the record safety tab has been removed, playback begins automatically.

2 FIND PROGRAMME START POINT

If the tape is advanced past the start point, press **REW**. To go forward, press **FF**.

3 START PLAYBACK

Press **PLAY**. "BEST" appears blinking in the recorder's display panel during automatic tracking (only cassettes recorded in the S-VHS or VHS mode ☞ pg. 34).

- Playback picture quality of LP recordings will not be as high as SP recordings.

4 STOP PLAYBACK

Press **STOP**. Then press **EJECT** to remove the cassette.

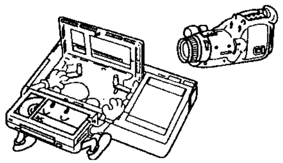
INFORMATION

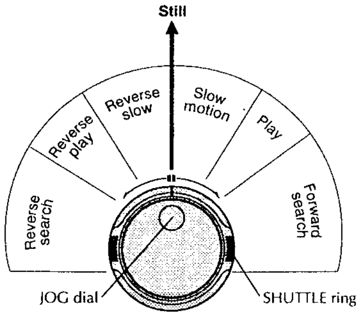
When using the AV connection (☞ pg. 6), initiating playback causes the VCR indicator to light and the TV to automatically enter AV mode. To return the TV to TV mode after playback is complete, press **TV/VCR** so that the VCR indicator turns off.

* Depending on the type of TV used, **TV/VCR** button does not always function as described above.

NOTE:

Compact VHS camcorder recordings can be played on this video recorder. Simply place the recorded cassette into a VHS Cassette Adapter and it can be used just like any full-sized VHS cassette.





NOTES:

- *The operations using the **JOG** dial or **SHUTTLE** ring are not possible with cassttes recorded in D-VHS mode.*
- *Refer to the **SHUTTLE** ring illustration above as you read the following procedures.*
- *If the recorder is left in still or forward slow motion mode for over 5 minutes, it will automatically go into stop mode.*
- *If the recorder is left in reverse slow motion mode for over 30 seconds, it will automatically go into stop mode.*

Still Picture/Frame-By-Frame Playback

1 PAUSE DURING PLAYBACK

Press **PAUSE.**

2 ACTIVATE FRAME-BY-FRAME PLAYBACK (S-VHS/VHS MODE ONLY)

Turn the **JOG** dial to the right for forward frame-by-frame playback, or to the left for reverse frame-by-frame playback.

OR

Press **PAUSE**.

OR

Press ◁ or ▷.

To resume normal playback, press **PLAY**.

ATTENTION (S-VHS/VHS Mode Only)

- When normal playback resumes from search, still, slow motion or frame-by-frame playback, the picture may jitter vertically momentarily depending on the type of TV being used.

In the search, still, slow-motion or frmae-by-frame playback mode,

- the picture will be distorted.
- the noise bar will appear.
- there may be a loss of colour.

Possible operations on this page for tapes recorded in D-VHS mode:

- Still picture during playback by pressing **PAUSE**.
- High-speed (turbo) search by pressing **FF** or **REW**.

Slow Motion (S-VHS/VHS Mode Only)

1 ACTIVATE SLOW-MOTION PLAYBACK

During playback or still, turn the **SHUTTLE** ring to the right for forward slow motion, or to the left for reverse slow motion (refer to the illustration on the left).

OR

During still picture, press and hold **PAUSE** for 2 seconds, then release. Press and release again to return to still picture.

OR

During still picture, press and hold ◁ or ▷. Release to return to still picture.

To resume normal playback, press **PLAY**.

High-Speed (Turbo) Search

1 ACTIVATE HIGH-SPEED SEARCH

During playback or still, turn the **SHUTTLE** ring all the way to the right for forward high-speed search, or to the left for reverse high-speed search. Releasing **SHUTTLE** resumes still picture playback.

OR

During playback or still, press **FF** for forward high-speed search, or **REW** for reverse high-speed search.

To resume normal playback, press **PLAY**.

NOTES:

- *For short searches, press and hold **FF** or **REW** during playback or still picture. When released, normal playback resumes.*
- *Search in D-VHS mode is not possible with cassettes recorded in D-VHS mode on other D-VHS recorders.*

Variable-Speed Search (S-VHS/VHS Mode Only)

1 ACTIVATE VARIABLE-SPEED SEARCH

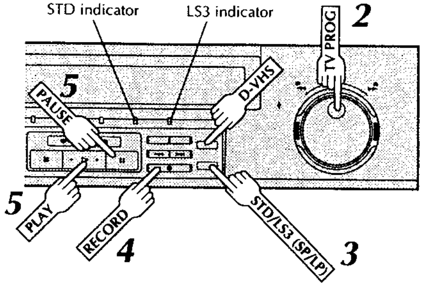
During playback or still, turn the **SHUTTLE** ring to the right for forward variable-speed search, or to the left for reverse variable-speed search (refer to the illustration above).

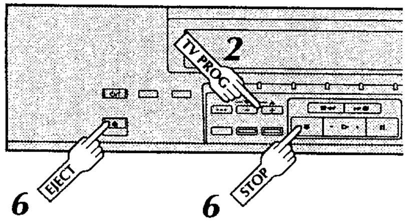
To resume normal playback, press **PLAY**.

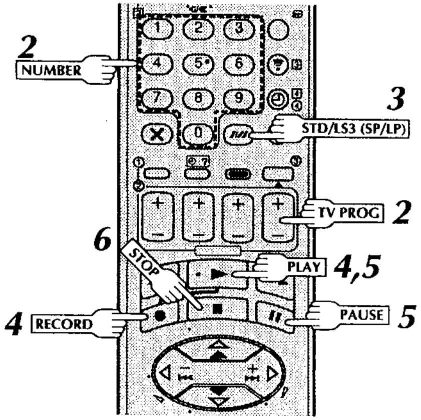
Recording

TV signals being received by the recorder's built-in tuner can be recorded onto a video tape. You can "capture" a TV programme using your video recorder.

- Turn on the TV and select the AV mode.
- Insert a D-VHS cassette to record in the D-VHS mode.







D-VHS Recording

1 LOAD A CASSETTE

Insert a cassette with the record safety tab intact (See next page).

- The counter is reset to 0:00:00 and the recorder power comes on automatically.
- While "– – – –" is blinking on the front display panel, the tape will run for a few seconds to search for the tape number.
- The STD (or LS3) indicator lights and the D-VHS recording mode is selected automatically.

2 CHOOSE A PROGRAMME

Press **TV PROG** +/– or the **NUMBER** keys to select the preset you wish to record.

- The **TV PROG** dial can also be used to select a channel.

3 SET TAPE SPEED

Press **STD/LS3** (**///**). Check the STD or LS3 indicator to confirm the selected tape speed.

4 START RECORDING

Press and hold **RECORD** and press **PLAY** on the remote control, or press **RECORD** on the recorder.

If "DIRECT REC" is set to "ON", the programme that appears on the TV screen will be recorded (☞ pg. 11).

- You can not change the preset whilst recording is in progress. To change the preset, see step **5**.

5 PAUSE/RESUME RECORDING

Press **PAUSE**. Press **PLAY** to resume recording.

- During the Record Pause mode, you can change the preset by pressing the **TV PROG** +/– buttons or the **NUMBER** keys.

6 STOP RECORDING

Press **STOP**. Then press **EJECT** to remove the cassette.

NOTE:

*To record in the S-VHS or VHS mode on a D-VHS cassette, press **D-VHS** so that the STD (or LS3) indicator goes off (☞ pg. 32).*

Compatibility Of Cassettes And Recording Mode

Cassette	Recording Mode		
	D-VHS	S-VHS	VHS
D-VHS	Yes	Yes	Yes
S-VHS	No	Yes	Yes
VHS	No	No	Yes

NOTES:

- *The D-VHS (MTP), S-VHS and VHS mode recordings are possible with this recorder.*
- *To record in the D-VHS mode, use a D-VHS cassette.*
- *To record in the S-VHS mode, you can use a S-VHS or D-VHS cassette.*
- *To record in the VHS mode, you can use a VHS, S-VHS or D-VHS cassette.*

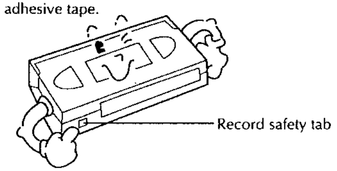
INFORMATION

When using the AV connection (☞ pg. 6), you can switch between TV mode and AV mode by pressing **TV/VCR**.

* Depending on the type of TV used, **TV/VCR** button does not function as described above.

Accidental erasure prevention

- To prevent accidental recording on a recorded cassette, remove its safety tab. To record on it later, cover the hole with adhesive tape.



S-VHS/VHS Recording

1 LOAD A CASSETTE

Insert a cassette with the record safety tab intact.

- The counter is reset to 0:00:00 and the recorder power comes on automatically.

2 CHOOSE A PROGRAMME

Press **TV PROG** +/– or the **NUMBER** keys to select the channel you wish to record.

- The **TV PROG** dial can also be used to select a channel.

3 SET TAPE SPEED

Press **SP/LP** (**///**). Check the SP/LP indicator on the front display panel to confirm the selected tape speed.

4 START RECORDING

Press and hold **RECORD** and press **PLAY** on the remote control, or press **RECORD** on the recorder.

B.E.S.T. takes place at the beginning of both the first SP and the first LP recording after inserting the cassette (☞ pg. 34).

If "DIRECT REC" is set to "ON", the programme that appears on the TV screen will be recorded (☞ pg. 11).

- You can not change the preset whilst recording is in progress. To change the preset, see step 5.

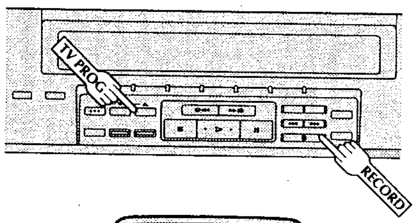
5 PAUSE/RESUME RECORDING

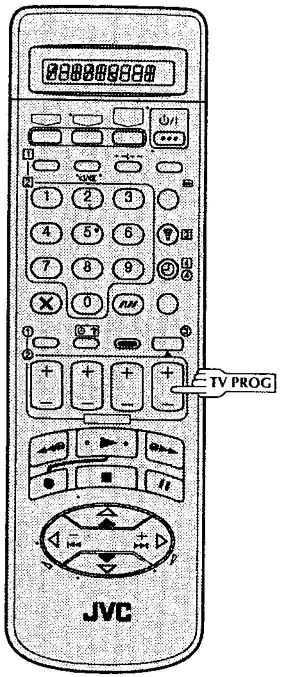
Press **PAUSE**. Press **PLAY** to resume recording.

- During the Record Pause mode, you can change the preset by pressing the TV PROG +/– buttons or the NUMBER keys.

6 STOP RECORDING

Press **STOP**. Then press **EJECT** to remove the cassette.





Record One Programme While Watching Another

1 SELECT PRESET TO WATCH

Once recording is in progress, all you need to do is to set the preset controls on the TV for the station you wish to view.

- The programme selected with the TV's preset controls appears on the TV screen while the one selected with the recorder's **TV PROG** buttons is recorded on the tape.

Instant Timer Recording (ITR)

This easy method allows you to record for any length of time from 30 mins. to 8 hours (selectable in 30-min. increments), and shuts off the recorder after recording is finished.

1 START RECORDING

Press **RECORD** on the recorder.

2 ENGAGE ITR MODE

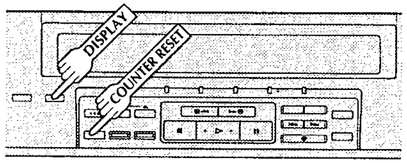
Press **RECORD** again. "○" blinks and 0:30 appears on the front display panel.

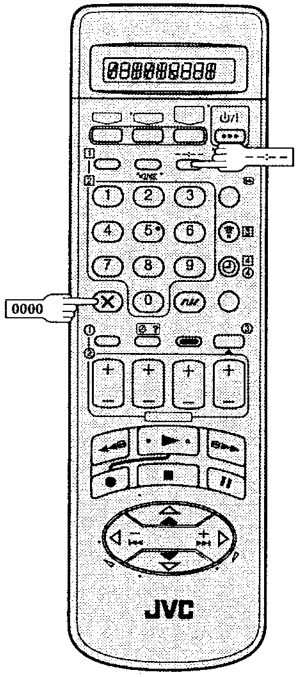
3 SET RECORDING DURATION

If you want to record for more than 30 minutes, press **RECORD** to extend the time. Each press extends recording time by 30 minutes.

NOTE:

You can only perform ITR using the ***RECORD*** *button on the recorder's front panel.*





Elapsed Recording Time Indication

You can check the exact time of a recording.

1 SET COUNTER DISPLAY

Press – –:– – (or **DISPLAY**) until a counter reading appears on the dispay panel.

2 RESET COUNTER

Press **0000** (or **COUNTER RESET**) before starting recording or playback.

- The counter is reset to "0:00:00" and shows the exact elapsed time as the tape runs.

Tape Remaining Time

1 DISPLAY REMAINING TIME

Press – –:– – (or **DISPLAY**) until the time remaining on the tape appears.

- The display panel shows the tape remaining time with "◣" displayed.
- By pressing the – –:– – (or **DISPLAY**) button, you can change the display to show the counter reading, preset position*, clock time or tape remaining time.

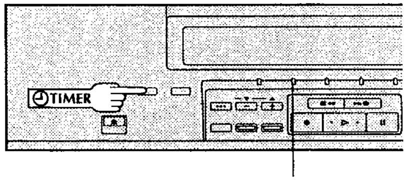
** Preset position is not displayed during playback.*

NOTE:

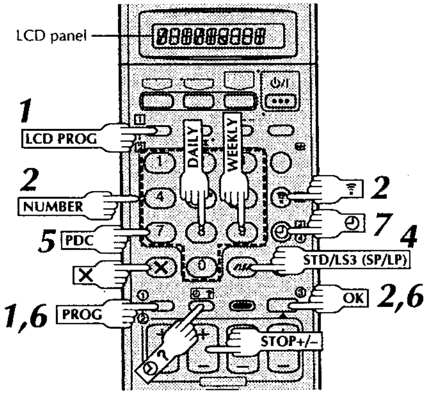
Depending on the type of tape used, there may be times when the tape remaining time reading may not appear right away, or is not correct. "– –:– –" may sometimes appear, or the display may blink on occasion.

VIDEO Plus+® Timer Programming

Before performing the VIDEO Plus+ Timer Programming:
- Make sure that the recorder's built-in clock is set properly.
- Insert a cassette with the safety tab in place. The recorder will come on automatically.
- Set the appropriate recording mode (D-VHS, S-VHS or VHS) (☞ pg. 14, 15).
- Turn on the TV and select the AV mode.



⊕ TIMER indicator

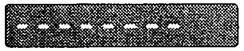


You can use the remote control with LCD panel to enter the PlusCode number.

1 ACCESS VIDEO PLUS+ DISPLAY

Press **LCD PROG**.

The LCD panel looks like this:



2 ENTER PLUSCODE NUMBER

Press the **NUMBER** keys to enter the PlusCode number of a programme you wish to record, then press ⇡.

- If you make a mistake, press X and input the correct number.

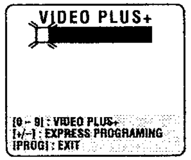
The PlusCode number you enter appears on the LCD panel:

Then go to step **3** in the right column.

With the VIDEO Plus+ system, timer programming is greatly simplified because each TV programme has a corresponding code number which your recorder is able to recognise.

1 ACCESS VIDEO PLUS+ SCREEN

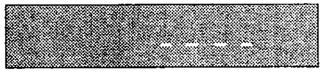
Press **PROG**.



VIDEO PLUS+

[0 – 9] : VIDEO PLUS+
[+/–] : EXPRESS PROGRAMING
[PROG] : EXIT

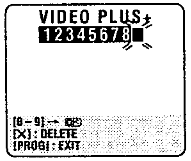
The front display panel looks like this:



2 ENTER PLUSCODE NUMBER

Press the **NUMBER** keys to enter the PlusCode number of the programme you wish to record, then press **OK**.

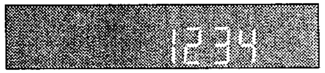
- If you make a mistake, press X and input the correct number.



VIDEO PLUS+
12345678

[0 – 9] → OK
[X] : DELETE
[PROG] : EXIT

The PlusCode number you enter appears on the front display panel:

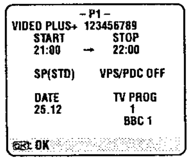


The display panel shows only a 4-digit number.

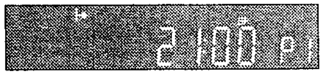
3 ACCESS VIDEO PLUS+ PROGRAM SCREEN

The VIDEO Plus+ Program screen appears (if you're just starting out, "P1" appears).

The display panel shows the programme start time. Pressing ⊕ ? changes the display to the programme stop time, then the date and preset position.



– P1 –
VIDEO PLUS+ 123456789
START → STOP
21:00 → 22:00
SP(STD) VPS/PDC OFF
DATE 25.12
TV PROG 1 BBC 1
OK : OK



IMPORTANT
Make sure the preset position number you wish to record is displayed; if not, see "VIDEO Plus+® Setup" on page 65 and set the Guide Program number for that PlusCode number correctly.

- If the number you entered is invalid, "ERROR" appears on the screen and "Err" appears on the display panel. Press X and input a valid PlusCode number.
- If the "GUIDE PROG SET" screen appears, see "ATTENTION – Regarding Guide Program Number Set" on page 19.

4 SET TAPE SPEED

D-VHS mode:
Press **STD/LS3** (**////**) to set the tape speed.
S-VHS or VHS mode:
Press **SP/LP** (**////**) to set the tape speed.

5 SET PDC MODE

Press **PDC** to select "ON" or "OFF".
If "VPS/PDC ON" is displayed on the screen or "VPS/PDC" is lit on the display panel, PDC is set to ON.
If "VPS/PDC OFF" is displayed on the screen or "VPS/PDC" is not lit on the display panel, PDC is set to OFF.
☞ "PDC Recording" in the column below.

- VPS (Video Programme System) recording is not currently available in the U.K. and not possible with this recorder.

6 RETURN TO NORMAL SCREEN

Press **PROG** or **OK**. "PROGRAM COMPLETED" appears on the screen for about 5 seconds, then normal screen appears.

- Repeat steps **1** – **6** for each additional programme.

7 ENGAGE RECORDER'S TIMER MODE

Press ⊕ (or ⊕**TIMER**). The recorder turns off automatically and ⊕ appears on the display panel. The ⊕**TIMER** indicator on the recorder also lights up.

- To disengage the timer, press ⊕ (or ⊕**TIMER**) again.

NOTES:

- *To Change The Stop Time . . .*
  *. . . press **STOP +/–** in step **3**. You can compensate for anticipated programme schedule delays this way.*
- *To Timer-Record Weekly Or Daily Serials . . .*
  *. . . in step **3**, press **WEEKLY (NUMBER** key "9") for weekly serials or **DAILY (NUMBER** key "8") for daily serials (Monday – Friday). Either "WEEKLY" or "DAILY" appears on the screen. Pressing the button again makes the corresponding indication disappear.*
- *You can programme this recorder to timer-record as many as 8 programmes. If you try to programme the recorder to record a ninth, "PROGRAM FULL" appears on screen and "FULL" appears on the front display panel. To record the extra programme, you must first cancel any unnecessary programmes (☞ pg. 22).*
- *It is not possible to timer-record a TV programme with a PlusCode number which starts with "0".*

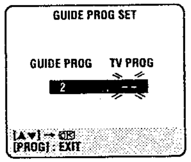
Satellite Receiver Users
To timer-record a satellite broadcast using the VIDEO Plus+ system:
1. Set "AV2 SELECT" to the appropriate mode. (☞ pg. 50)
2. Perform steps **1** – **7**.
3. Set the satellite receiver to the appropriate channel before the selected programme begins.
4. Leave the satellite receiver's power on.

ATTENTION

Regarding Guide Program Number Set

"GUIDE PROG SET" appears after performing step **3** if the Guide Program number for the PlusCode number you entered has not been set.

- Press the **NUMBER** keys or △▽ to input the preset position number on which your recorder receives that station, then press **OK** or ▷ to set the Guide Program Number. The VIDEO Plus+ Program screen appears.



GUIDE PROG SET
GUIDE PROG TV PROG
2 – –
[▲▼] → OK
[PROG] : EXIT

(Ex.) To timer-record a BBC2 programme with the VIDEO Plus+ system.
* If your recorder receives BBC2 on the preset position 2, press **OK** or ▷ after entering "2".

PDC Recording

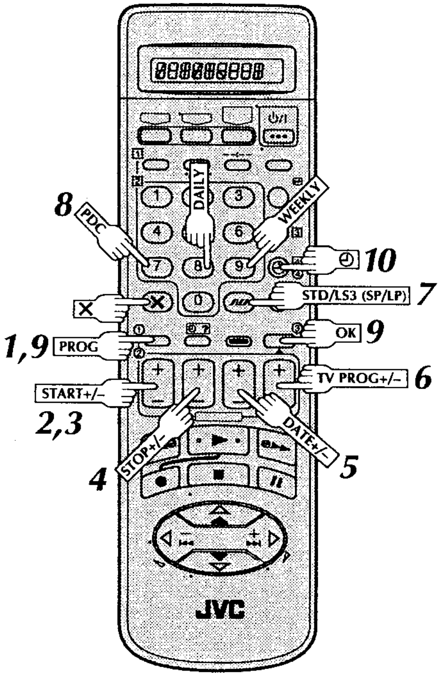
Now available from some TV stations, PDC (Programme Delivery Control) is a service designed to assure safe, accurate timer recording. With this system, special code signals are transmitted together with the audio/video signals. These code signals control your video recorder and have precedence over the advertised times which you may have preset into the timer. This means that your recorder will start and stop recording when the preset TV programmes actually start and end — even if the broadcast time of a preset TV programme is changed from what has been advertised. PDC is currently available nationally on BBC1, BBC2, Ch.4 and Ch.5, except from a few small relay transmitters. Ch.3 operates a PDC service in some areas. All channels intend to offer this service in due course. Check your TV programme listing guide for latest information. If the channel you intend to record does not offer a PDC service your recorder will not start recording if PDC has been selected. Be sure to set PDC to "OFF" if PDC is not available on your selected channel (☞ step **5** above).

NOTES:

- *PDC recording is also possible when a satellite receiver or a cable system is connected to AV2 IN/DECODER on your recorder.*
- *PDC recording is also possible via the AV1 IN/OUT connector.*

Express Timer Programming

Before performing Express Timer Programming:
- Make sure that the recorder's built-in clock is set properly. .
- Insert a cassette with the safety tab in place. The recorder will come on automatically.
- Set the appropriate recording mode (D-VHS, S-VHS or VHS) (☞ pg. 14, 15).
- Turn on the TV and select the AV mode.



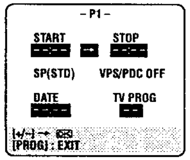
If you don't know the PlusCode number for the programme you wish to record, use the following procedure to set your recorder to timer-record the programme.

1 ACCESS VIDEO PLUS+ SCREEN

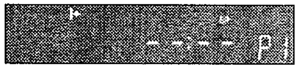
Press **PROG**.

2 ACCESS PROGRAMME SCREEN

Press **START +/–**. (If you're just starting out, "P1" appears.)



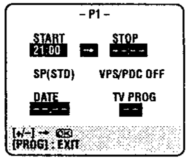
The front display panel looks like this:



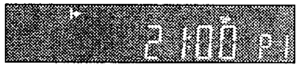
3 ENTER PROGRAMME START TIME

Press **START +/–** to enter the time you want recording to start.

- Press and hold **START +/–** to move in 30-minute increments, or press and release repeatedly to move 1 minute at a time.



The front display panel looks like this:



4 ENTER PROGRAMME STOP TIME

Press **STOP +/–** to enter the time you want recording to stop.

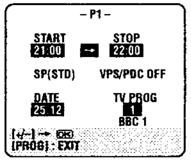
- Press and hold **STOP +/–** to move in 30-minute increments, or press and release repeatedly to move 1 minute at a time.

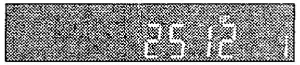
5 ENTER PROGRAMME DATE

Press **DATE +/–** to enter the date on which you wish to record. (The current date first appears on screen. The date you enter will appear in its place.)

6 ENTER PRESET POSITION

Press **TV PROG +/–** to enter the preset position corresponding to the broadcasting station you wish to record.





7 SET TAPE SPEED

D-VHS mode:
Press **STD/LS3** (**////**) to set the tape speed.
S-VHS or VHS mode:
Press **SP/LP** (**////**) to set the tape speed.

8 SET PDC MODE

Press **PDC** to select "ON" or "OFF".
If "VPS/PDC ON" is displayed on the screen or "VPS/PDC" is lit on the display panel, PDC is set to ON.
If "VPS/PDC OFF" is displayed on the screen or "VPS/PDC" is not lit on the display panel, PDC is set to OFF.
☞ "PDC Recording" in the right column.

- VPS (Video Programme System) recording is not currently available in the U.K. and not possible with this recorder.

9 RETURN TO NORMAL SCREEN

After confirming all information is correct, press **PROG** or **OK**. "PROGRAM COMPLETED" appears on the screen for about 5 seconds, then normal screen appears.

- Repeat steps **1** – **9** for each additional programme.

10 ENGAGE RECORDER'S TIMER MODE

Press ⊕ (or **⊕TIMER**). The recorder turns off automatically and ⊕ appears on the display panel. The **⊕TIMER** indicator on the recorder also lights up.

- To disengage the timer, press ⊕ (or **⊕TIMER**) again.

To Timer-Record Weekly Or Daily Serials . . .
. . . anytime during steps **2** through **9**, press **WEEKLY** (**NUMBER** key "9") for weekly serials or **DAILY** (**NUMBER** key "8") for daily serials (Monday – Friday). Either "WEEKLY" or "DAILY" appears on the screen. Pressing the button again makes the corresponding indication disappear.

NOTE:

You can programme this recorder to timer-record as many as 8 programmes. If you try to programme the recorder to record a ninth, "PROGRAM FULL" appears on screen and "FULL" appears on the front display panel. To record the extra programme, you must first cancel any unnecessary programmes (☞ pg. 22).

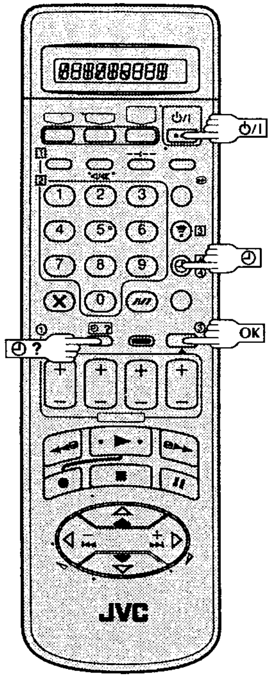
Satellite Receiver Users
To timer-record a satellite broadcast using Express Timer Programming:
1. Set "AV2 SELECT" to the appropriate mode. (☞ pg. 50)
2. Perform steps **1** – **10**. Select "L-1" or "L-2" for the channel position in step **6**, depending on the connection to the satellite tuner (☞ pg. 40).
3. Set the satellite receiver to the appropriate channel before the selected programme begins.
4. Leave the satellite receiver's power on.

PDC Recording

Now available from some TV stations, PDC (Programme Delivery Control) is a service designed to assure safe, accurate timer recording. With this system, special code signals are transmitted together with the audio/video signals. These code signals control your video recorder and have precedence over the advertised times which you may have preset into the timer. This means that your recorder will start and stop recording when the preset TV programmes actually start and end — even if the broadcast time of a preset TV programme is changed from what has been advertised. PDC is currently available nationally on BBC1, BBC2, Ch.4 and Ch.5, except from a few small relay transmitters. Ch.3 operates a PDC service in some areas. All channels intend to offer this service in due course. Check your TV programme listing guide for latest information. If the channel you intend to record does not offer a PDC service your recorder will not start recording if PDC has been selected. Be sure to set PDC to "OFF" if PDC is not available on your selected channel.
(☞ step **8** in the left column).

NOTES:

- *Set the start time (PDC time) exactly as advertised in the TV listing. A different time than advertised will result in no recording.*
- *PDC recording is also possible when a satellite receiver or a cable system is connected to AV2 IN/DECODER on your recorder.*
- *PDC recording is also possible via the AV1 IN/OUT connector.*



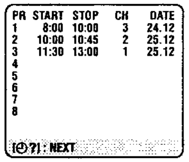
Check, Cancel And Replace Programmes

1 DISENGAGE TIMER MODE

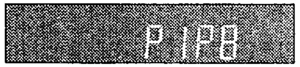
Press ◷ (or ◷**TIMER**), then press ⏻/I.

2 ACCESS PROGRAMME CHECK SCREEN/DISPLAY

Press ◷ **?**.

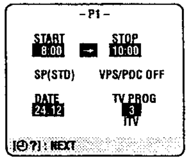


```
PR START  STOP  CH  DATE
1   8:00 10:00   3 24.12
2  10:00 10:45   2 25.12
3  11:30 13:00   1 25.12
4
5
6
7
8

[◷?] : NEXT
```



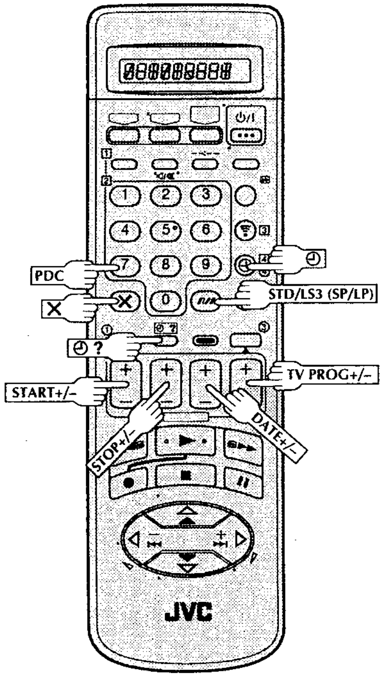
3 ACCESS PROGRAMME SCREEN/DISPLAY

Press ◷ **?** again to check more information. Each time you press ◷ **?**, the next programme's information appears.



```
      - P1 -
START         STOP
 8:00    →    10:00
SP(STD)   VPS/PDC OFF
DATE        TV PROG
24.12          3
              ITV
[◷?] : NEXT
```

- The display panel shows the programme start time. Pressing **OK** changes the display to the programme stop time, then the date and the preset position.



To cancel or replace a programme...

4 CANCEL OR REPLACE A PROGRAMME

Press ✕ to cancel a programme. To replace a programme, press the appropriate button: **START+/–**, **STOP+/–**, **DATE+/–**, **TV PROG+/–**, **STD/LS3 (SP/LP)** (**/I//**), **PDC**.

5 RETURN TO NORMAL SCREEN/DISPLAY

Press ◷ **?** as many times as necessary. If there are still some programmes to be recorded, go on to step **6**.

6 RETURN TO TIMER MODE

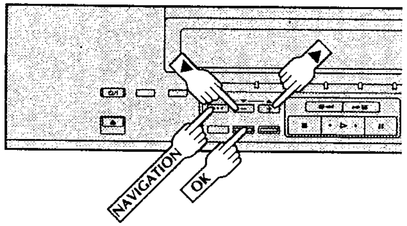
Press ◷ (or ◷**TIMER**).

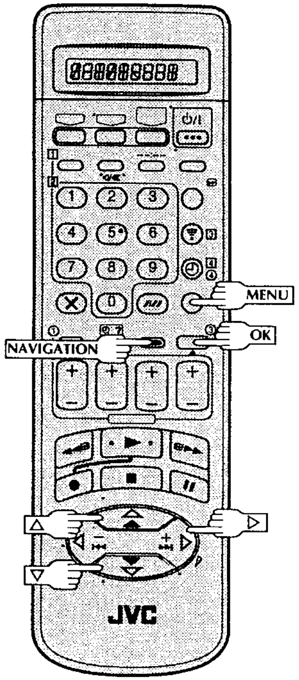
NOTE:

You can also check the programmes on the display panel even if the recorder's power is off (unless the recorder is in the Power Save mode ☞ pg. 54) or the recorder is in the Timer mode; however, it is not possible to cancel or replace the programmes.

Navigation

Turn on the TV and select the AV mode.


NAVIGATION
OK


MENU
OK
NAVIGATION
△
▷
▽
JVC

This function is useful when you wish to quickly find out what programmes you have recorded on a tape with this recorder. This function allows you to select a programme to watch, and then automatically searches for the start of the programme.

1 LOAD A RECORDED CASSETTE

Insert a recorded cassette.

- The tape will run for a few seconds while the recorder searches for the tape number.

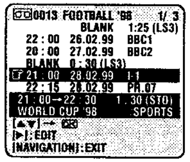
2 ACCESS TITLE SCREEN

Press **NAVIGATION**.

- After pressing NAVIGATION, it may take a few seconds to access the title screen while the recorder searches for the programme information.

3 CHOOSE A PROGRAMME

Press △▽ (or ▲▼) to move the highlight bar (pointer) to the programme you want to watch.


0013 FOOTBALL '98 1/ 3
BLANK 1:25 (LS3)
22 : 00 26.02.99 BBC1
20 : 00 27.02.99 BBC2
BLANK 0 : 30 (LS3)
21 : 00 28.02.99 I-1
22 : 15 28.02.99 PR.07
21 : 00→22 : 30 1 . 30 (STD)
WORLD CUP '98 :SPORTS
[▲▼]→ OK
[▶] : EDIT
[NAVIGATION] : EXIT

4 START PLAYBACK

Press **OK**. Playback begins automatically after the selected programme is located.

- If you press ▷ instead of **OK**, the editing screen will appear. You can edit the programme title and category (☞ pg. 27).

To start recording on the blank portion of a tape

If you do not record programs consecutively, two tape numbers will be recorded on one tape and the recorder will not be able to search for the correct programme. To continue recording on the blank portion of a tape, follow the procedure described below:

1. Press △▽, and select a "BLANK" item on the program title screen.
2. Press **OK**. The recorder automatically searches for a blank portion on the tape.
3. After confirming that this is the tape on which you really wish to record, begin recording.

Checking Memory

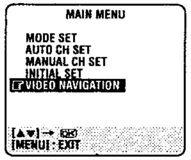
You can check the amount of recorded information in the memory.

1 ACCESS MAIN MENU SCREEN

Press **MENU**.

2 ACCESS VIDEO NAVIGATION SCREEN

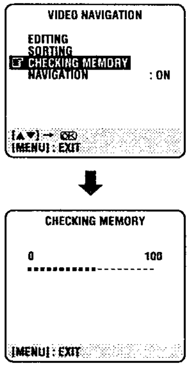
Press △▽ to move the highlight bar (pointer) to "VIDEO NAVIGATION", then press **OK** or ▷.


MAIN MENU
MODE SET
AUTO CH SET
MANUAL CH SET
INITIAL SET
VIDEO NAVIGATION
[▲▼]→ OK
[MENU] : EXIT

3 CHECK MEMORY

Press △▽ to move the highlight bar (pointer) to "CHECKING MEMORY", then press **OK** or ▷.

- The CHECKING MEMORY screen will appear.


VIDEO NAVIGATION
EDITING
SORTING
CHECKING MEMORY
NAVIGATION : ON
[▲▼]→ OK
[MENU] : EXIT
CHECKING MEMORY
0 100
[MENU] : EXIT

4 RETURN TO NORMAL SCREEN

Press **MENU**.

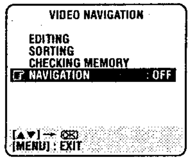
Turn Off Navigation

If you don't want to record information on the programmes, set "NAVIGATION" to "OFF".

Perform steps **1** to **2** of "Checking Memory" in the left column before continuing.

1 TURN OFF NAVIGATION

Press △▽ to move the highlight bar (pointer) to "NAVIGATION", then press **OK** or ▷ to set to "OFF".


VIDEO NAVIGATION
EDITING
SORTING
CHECKING MEMORY
NAVIGATION : OFF
[▲▼]→ OK
[MENU] : EXIT

2 RETURN TO NORMAL SCREEN

Press **MENU**.

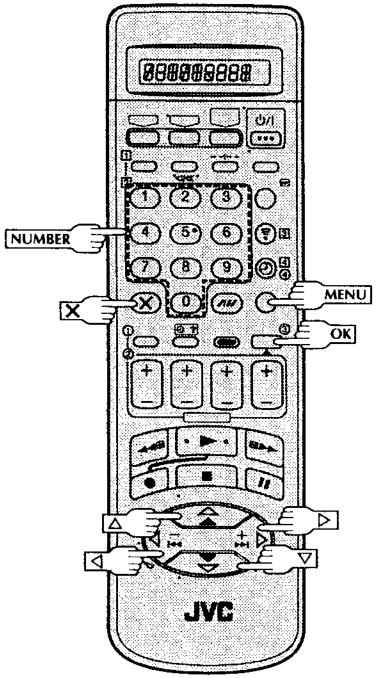
NOTES:

- *Video Navigation is possible with the cassettes recorded with this recorder only.*
- *To record the date and time as the programme title in this recorder's memory, make sure the recorder's clock is set correctly before recording.*
- *To record the programme information in this recorder's memory, you must record each programme for over the minimum recording time; 10 min. for the D-VHS (STD) mode, 30 min. for the D-VHS (LS3) mode, 8 min. for the S-VHS/VHS (SP) mode or 15 min. for the S-VHS/VHS (LP) mode.*
- *Video Navigation may not work properly depending on the cassette being used.*
- *If the recorder finds two tape numbers in one tape while playing back or searching for the beginning of a programme, then when you remove the tape, the tape will be assigned just one number (smaller number).*
- *If you overwrite a programme from the beginning, the "☑" symbol is displayed for the title that was overwritten.*
- *The programme information is stored in this recorder's memory. If the memory in this recorder should ever be damaged and the programme information lost, it is impossible to restore that information.*
- *After recording a tape with this recorder, write the tape number on a label and affix the label to the cassette in order to allow you to find the tape by its number.*

Title Editing

When you record a TV programme with this recorder, the recorder automatically records the recording start time, date, and channel in each programme title. If the tape is recorded for the first time, the tape number and the date and time are recorded in the tape title. You can then edit the tape title and the programme titles as you like. You can also edit the category in the programme title.
In short, you can use the Video Navigation function to create your own video tape library.

Turn on the TV and select the AV mode.



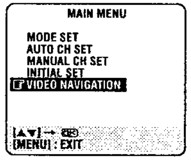
Edit Tape Title

1 ACCESS MAIN MENU SCREEN

Press **MENU**.

2 ACCESS VIDEO NAVIGATION SCREEN

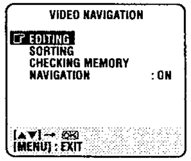
Press △▽ to move the highlight bar (pointer) to "VIDEO NAVIGATION", then press **OK** or ▷.



```
MAIN MENU

MODE SET
AUTO CH SET
MANUAL CH SET
INITIAL SET
☞ VIDEO NAVIGATION

[▲▼] → OK
[MENU] : EXIT
```

3 ACCESS EDITING SCREEN

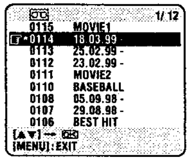
Press △▽ to move the highlight bar (pointer) to "EDITING", then press **OK** or ▷.



```
VIDEO NAVIGATION

☞ EDITING
  SORTING
  CHECKING MEMORY
  NAVIGATION          : ON

[▲▼] → OK
[MENU] : EXIT
```

4 SELECT TAPE NO.

Press △▽ to move the highlight bar (pointer) to the number of the tape whose title you want to edit, then press **OK** or ▷.

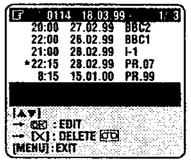


```
                      1/ 12
   0115    MOVIE1
☞ *0114    18.03.99 -
   0113    25.02.99 -
   0112    23.02.99 -
   0111    MOVIE2
   0110    BASEBALL
   0108    05.09.98 -
   0107    29.08.98 -
   0106    BEST HIT
[▲▼] → OK
[MENU] : EXIT
```

- The "*" mark indicates the tape number of the cassette that is currently in the recorder.

5 SELECT TAPE TITLE

Press △▽ to move the highlight bar (pointer) to the tape number, then press **OK** or ▷.



```
☞   0114  18.03.99 -     1/ 3
   20:00  27.02.99  BBC2
   22:00  26.02.99  BBC1
   21:00  28.02.99  I-1
  *22:15  28.02.99  PR.07
    8:15  15.01.00  PR.99

[▲▼]
→ OK : EDIT
→ [X] : DELETE
[MENU] : EXIT
```

- The "*" mark indicates the current position on the tape.

6 ENTER CHARACTER

Press **NUMBER** keys to enter characters, then press **OK**. For details, refer to "Entering Character" below.

7 RETURN TO NORMAL SCREEN

Press **MENU**.

Entering Character

Press **NUMBER** key, then press ▷ to enter each character.
Refer to the example below.

(Ex.) Enter "JVC NEWS"

1. Press **5** (JKL) once to enter "J", then press ▷.
2. Press **8** (TUV) three times to enter "V", then press ▷.
3. Press **2** (ABC) three times to enter "C", then press ▷.
4. Press **0** (␣) twice to enter "␣ (space)", then press ▷.
5. Press **6** (MNO) twice to enter "N", then press ▷.
6. Press **3** (DEF) twice to enter "E", then press ▷.
7. Press **9** (WXYZ) once to enter "W", then press ▷.
8. Press **7** (PQRS) four times to enter "S", then press ▷.

NUMBER KEY	CHARACTER
1	. , / – + ∗ ( ) 1
2	A B C 2 Ä À Á Â Ã Å Æ
3	D E F 3 È É Ë Ê
4	G H I 4 Î Ï Ì Í
5	J K L 5
6	M N O 6 Ö Ô Ò Ó Õ Ø Ñ
7	P Q R S 7
8	T U V 8 Ü Ù Û Ú
9	W X Y Z 9
0	0 _

NOTES:

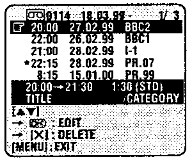
- *If you make a mistake, press ◁▷ to select the character, then enter the correct character.*
- *If you want to delete a character, press ◁▷ to select the character, then press X.*

Edit Programme Title And Category

Perform steps **1** to **4** of "Edit Tape Title" on page 26 before continuing.

1 SELECT PROGRAMME

Press △▽ to move the highlight bar (pointer) to the programme you want to edit, then press **OK** or ▷.



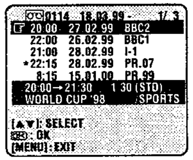
```
    0114  18.03.99 -     1/ 3
☞ 20:00  27.02.99  BBC2
  22:00  26.02.99  BBC1
  21:00  28.02.99  I-1
 *22:15  28.02.99  PR.07
   8:15  15.01.00  PR.99
  20:00→21:30     1:30 (STD)
  TITLE              /CATEGORY
[▲▼]
→ OK : EDIT
→ [X] : DELETE
[MENU] : EXIT
```

2 ENTER CHARACTER

Press **NUMBER** keys to enter characters, then press **OK**. For details, refer to "Entering Character" in the left column.

3 SELECT CATEGORY

Press △▽ to move the highlight bar (pointer) to select the category you want, then press **OK** or ▷.



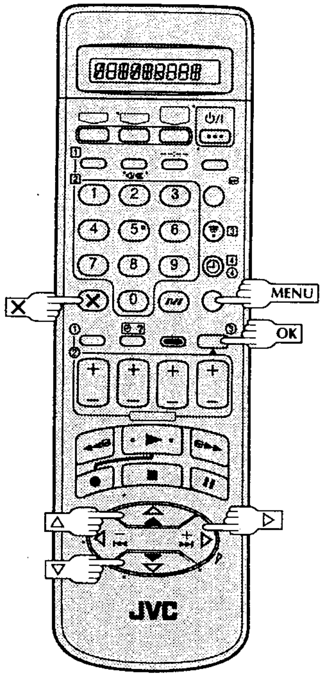
```
    0114  18.03.99 -     1/ 3
☞ 20:00  27.02.99  BBC2
  22:00  26.02.99  BBC1
  21:00  28.02.99  I-1
 *22:15  28.02.99  PR.07
   8:15  15.01.00  PR.99
  20:00→21:30     1 30 (STD)
  WORLD CUP '98       /SPORTS

[▲▼]: SELECT
OK : OK
[MENU] : EXIT
```

4 RETURN TO NORMAL SCREEN

Press **MENU**.

Choice Of Category

CATEGORY △
△ ▽
MOVIE
△ ▽
SPORTS
△ ▽
SPECIAL
△ ▽
SERIES
△ ▽
SHOW
△ ▽
MUSIC
△ ▽
CHILDREN
△ ▽
NEWS
△ ▽
OTHERS ▽

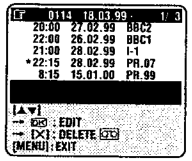


Delete Tape Data

Perform steps **1** to **4** of "Edit Tape Title" on page 26 before continuing.

1 SELECT TAPE TITLE

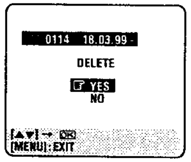
Press △▽ to move the highlight bar (pointer) to the tape number you want to delete, then press X.



```
     0114  18.03.99·       1/ 3
   20:00  27.02.99  BBC2
   22:00  26.02.99  BBC1
   21:00  28.02.99  I-1
  *22:15  28.02.99  PR.07
    8:15  15.01.00  PR.99

[▲▼]
→ OK : EDIT
→ [X] : DELETE
[MENU] : EXIT
```

2 DELETE TAPE DATA

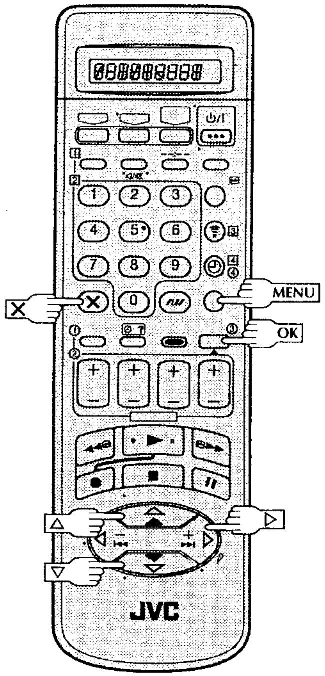
Press △▽ to move the highlight bar (pointer) to "YES", then press **OK** or ▷.



```
  0114  18.03.99·

      DELETE

       YES
       NO

[▲▼] → OK
[MENU] : EXIT
```

3 RETURN TO NORMAL SCREEN

Press **MENU**.

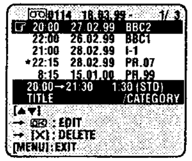


Delete Programme Data

Perform steps **1** to **4** of "Edit Tape Title" on page 26 before continuing.

1 SELECT PROGRAMME

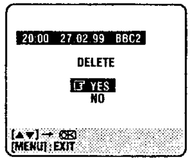
Press △▽ to move the highlight bar (pointer) to the programme you want to delete, then press X.



```
   0114  18.03.99·        1/ 3
   20:00  27.02.99  BBC2
   22:00  26.02.99  BBC1
   21:00  28.02.99  I-1
  *22:15  28.02.99  PR.07
    8:15  15.01.00  PR.99
  20:00→21:30     1:30 (STD)
  TITLE            /CATEGORY
[▲▼]
→ OK : EDIT
→ [X] : DELETE
[MENU] : EXIT
```

2 DELETE PROGRAMME DATA

Press △▽ to move the highlight bar (pointer) to "YES", then press **OK** or ▷.



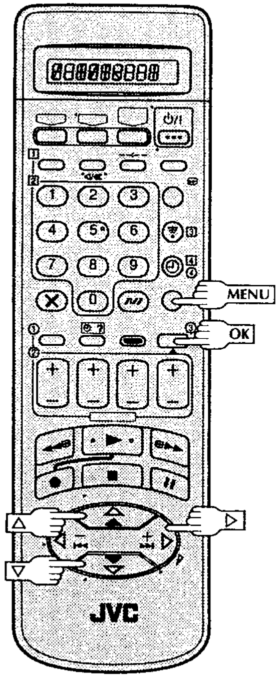
```
 20:00  27.02.99  BBC2

      DELETE

       YES
       NO

[▲▼] → OK
[MENU] : EXIT
```

3 RETURN TO NORMAL SCREEN

Press **MENU**.

NOTES:

- *When you delete data, only the tape and/or programme information is deleted. The actual recording on the tape is not erased.*
- *If the recorder's memory becomes full, the recorder registers the tape in the library under the smallest tape number that is still available.*



Sorting By Tape Number

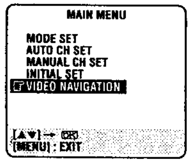
If you have recorded a lot of tapes with this recorder, this function is useful for finding out what is recorded on each tape.

1 ACCESS MAIN MENU SCREEN

Press **MENU**.

2 ACCESS VIDEO NAVIGATION SCREEN

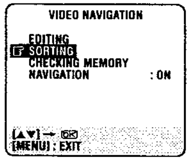
Press △▽ to move the highlight bar (pointer) to "VIDEO NAVIGATION", then press **OK** or ▷.



```
MAIN MENU

MODE SET
AUTO CH SET
MANUAL CH SET
INITIAL SET
☞VIDEO NAVIGATION

[▲▼]→ OK
[MENU] : EXIT
```

3 ACCESS SORTING SCREEN

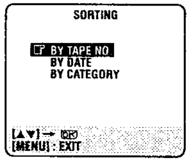
Press △▽ to move the highlight bar (pointer) to "SORTING", then press **OK** or ▷.



```
VIDEO NAVIGATION

EDITING
☞SORTING
CHECKING MEMORY
NAVIGATION          : ON

[▲▼]→ OK
[MENU] : EXIT
```

4 ACCESS TAPE NO. SCREEN

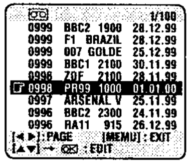
Press △▽ to move the highlight bar (pointer) to "BY TAPE NO.", then press **OK** or ▷.



```
SORTING

☞ BY TAPE NO
  BY DATE
  BY CATEGORY

[▲▼]→ OK
[MENU] : EXIT
```

5 SELECT TAPE NO.

Press △▽ to move the highlight bar (pointer) to the tape number you want to select, then press **OK**.



```
                        1/100
  0999  BBC2  1900  28.12.99
  0999  F1  BRAZIL  28.12.99
  0999  007  GOLDE  25.12.99
  0999  BBC1  2100  30.11.99
  0998  ZDF   2100  28.11.99
☞ 0998  PR99  1000  01.01.00
  0997  ARSENAL V   25.11.99
  0996  BBC2  2300  24.11.99
  0996  RA11   915  26.12.99
[◀▶]:PAGE      [MENU] : EXIT
[▲▼]→ OK : EDIT
```

- The editing screen will appear. You can edit the tape title, or the programme title and category (☞ pg. 26, 27).

6 RETURN TO NORMAL SCREEN

Press **MENU**.

NOTE:

If you wish to play back the programme on the tape you have found, insert the cassette and see the "Navigation" (☞ pg. 24) for the operation.

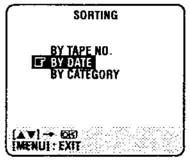
Sorting By Date

If you have recorded a lot of tapes with this recorder, this function is useful for searching for tape numbers sorted by date.

Perform steps **1** to **3** of "Sorting By Tape Number" on page 30 before continuing.

1 ACCESS DATE SCREEN

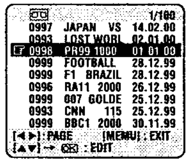
Press △▽ to move the highlight bar (pointer) to "BY DATE", then press **OK** or ▷.



```
SORTING

  BY TAPE NO.
☞ BY DATE
  BY CATEGORY

[▲▼]→ OK
[MENU] : EXIT
```

2 SELECT TAPE NO.

Press △▽ to move the highlight bar (pointer) to the tape number you want to select, then press **OK**.



```
                        1/100
  0997  JAPAN   VS  14.02.00
  0993  LOST WORL   02.01.00
☞ 0998  PR99 1000   01 01 00
  0999  FOOTBALL    28.12.99
  0999  F1  BRAZIL  28.12.99
  0996  RA11  2000  26.12.99
  0999  007  GOLDE  25.12.99
  0993  CNN    115  25.12.99
  0999  BBC1  2000  30.11.99
[◀▶]:PAGE      [MENU] : EXIT
[▲▼]→ OK : EDIT
```

- The editing screen will appear. You can edit the tape title, or the programme title and category (☞ pg. 26, 27).

3 RETURN TO NORMAL SCREEN

Press **MENU**.

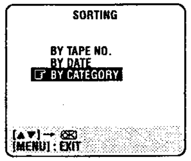
Sorting By Category

If you have recorded a lot of tapes with this recorder, this function is useful for finding out what category of programme is recorded on the tape.

Perform steps **1** to **3** of "Sorting By Tape Number" on page 30 before continuing.

1 ACCESS CATEGORY SCREEN

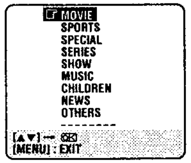
Press △▽ to move the highlight bar (pointer) to "BY CATEGORY", then press **OK** or ▷.



```
SORTING

  BY TAPE NO.
  BY DATE
☞ BY CATEGORY

[▲▼]→ OK
[MENU] : EXIT
```

2 SELECT CATEGORY

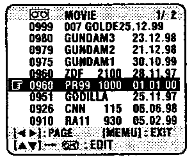
Press △▽ to move the highlight bar (pointer) to the category you want to watch, then press **OK** or ▷.



```
☞ MOVIE
  SPORTS
  SPECIAL
  SERIES
  SHOW
  MUSIC
  CHILDREN
  NEWS
  OTHERS
  --------
[▲▼]→ OK
[MENU] : EXIT
```

3 SELECT TAPE NO.

Press △▽ to move the highlight bar (pointer) to the tape number you want to select, then press **OK**.



```
        MOVIE           1/ 2
  0999  007 GOLDE25.12.99
  0980  GUNDAM3     23.12.98
  0979  GUNDAM2     21.12.98
  0975  GUNDAM1     30.10.99
  0960  ZDF   2100  28.11.97
☞ 0960  PR99  1000  01.01.00
  0951  GODILLA     25.11.97
  0926  CNN    115  06.06.98
  0910  RA11   930  05.02.99
[◀▶]:PAGE      [MENU] : EXIT
[▲▼]→ OK : EDIT
```

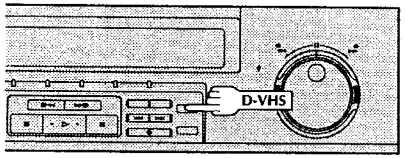
- The editing screen will appear. You can edit the tape title, or the programme title and category (☞ pg. 26, 27).

4 RETURN TO NORMAL SCREEN

Press **MENU**.

Recording According To Tape Type

Turn on the TV and select the AV mode.



S-VHS (Super VHS) And VHS

Your recorder can also record in either S-VHS or VHS.

To record in S-VHS on a D-VHS cassette:

Perform the steps **1** – **4** to set "S-VHS" to "AUTO".
Then, insert a cassette marked "D-VHS" and press **D-VHS** to turn off the D-VHS mode. The STD (or LS3) indicator will go off and the S-VHS indicator on the front display panel will light.
The S-VHS recording mode will be selected.

To record in VHS on a D-VHS cassette:

Insert a cassette marked "D-VHS" and press **D-VHS** to turn off the D-VHS mode. The STD (or LS3) indicator will go off and the S-VHS indicator on the front display panel will light.
Then, perform the steps **1** – **4** to set the "S-VHS" to "OFF"; the S-VHS indicator will go off.
The VHS recording mode will be selected.

To record in S-VHS on an S-VHS cassette:

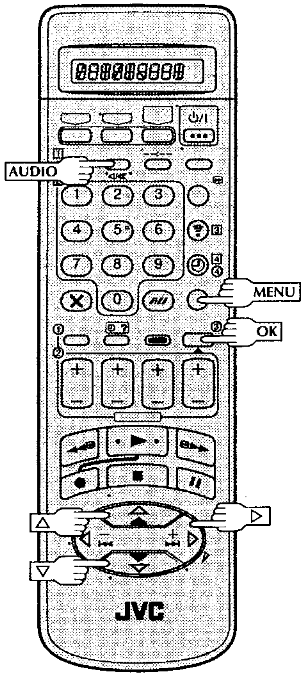
Perform the steps **1** – **4** to set "S-VHS" to "AUTO".
Then, insert a cassette marked "S-VHS". The S-VHS indicator on the front display panel will light.
The S-VHS recording mode will be selected.

To record in VHS on an S-VHS cassette:

Insert a cassette marked "S-VHS". The S-VHS indicator on the front display panel will light.
Then, perform the steps **1** – **4** to set the "S-VHS" to "OFF"; the S-VHS indicator will go off.
The VHS recording mode will be selected.

To record in VHS on a VHS cassette:

Insert a cassette marked "VHS".
The VHS recording mode will be automatically selected regardless of the S-VHS mode setting.



1

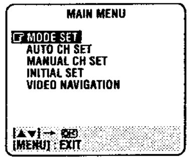
ACCESS MAIN MENU SCREEN

Press **MENU**.

2

ACCESS MODE SET SCREEN

Move the highlight bar (pointer) to "MODE SET" by pressing △▽, then press **OK** or ▷.

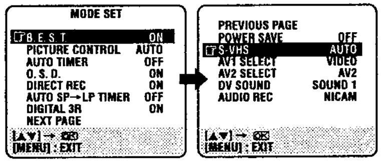


MAIN MENU
MODE SET
AUTO CH SET
MANUAL CH SET
INITIAL SET
VIDEO NAVIGATION
[▲▼] → OK
[MENU] : EXIT

3

SELECT S-VHS MODE

Move the highlight (pointer) to "S-VHS" by pressing △▽, then press **OK** or ▷ to select "AUTO" or "OFF".



MODE SET
B.E.S.T. ON
PICTURE CONTROL AUTO
AUTO TIMER OFF
O. S. D. ON
DIRECT REC ON
AUTO SP→LP TIMER OFF
DIGITAL 3R ON
NEXT PAGE
[▲▼] → OK
[MENU] : EXIT

PREVIOUS PAGE
POWER SAVE OFF
S-VHS AUTO
AV1 SELECT VIDEO
AV2 SELECT AV2
DV SOUND SOUND 1
AUDIO REC NICAM
[▲▼] → OK
[MENU] : EXIT

4

RETURN TO NORMAL SCREEN

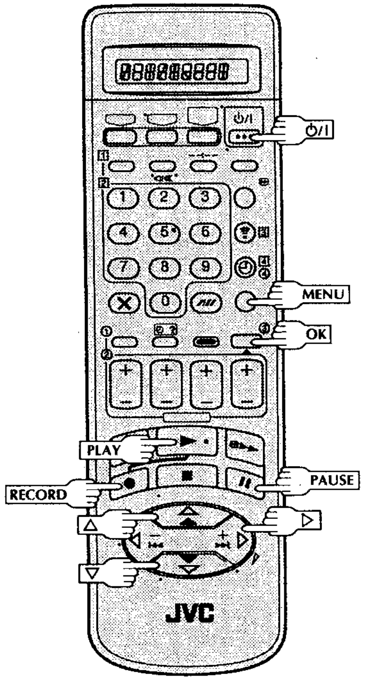
Press **MENU**.

NOTE:

When playing back a tape that has been recorded in S-VHS, the S-VHS indicator lights on the display panel regardless of the "S-VHS" mode setting.

Playback/ Recording According To Tape Characteristics (S-VHS/ VHS Mode Only)

Turn on the TV and select the AV mode.



The ⏻/I, **PLAY**, **RECORD**, and **PAUSE** buttons on the recorder have the same function as those on the remote control.

B.E.S.T. Picture System

The B.E.S.T. (Biconditional Equalised Signal Tracking) system checks the condition of the tape in use during recording and playback, and compensates to provide the highest-possible recording and playback pictures. The default setting for both recording and playback is "ON".

1 TURN ON THE RECORDER

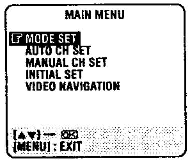
Press ⏻/I.

2 ACCESS MAIN MENU SCREEN

Press **MENU**.

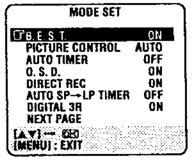
3 ACCESS MODE SET SCREEN

Press △▽ to move the highlight bar (pointer) to "MODE SET", then press **OK** or ▷.


MAIN MENU
☞ MODE SET
AUTO CH SET
MANUAL CH SET
INITIAL SET
VIDEO NAVIGATION
[▲▼] → OK
[MENU] : EXIT

4 SELECT B.E.S.T. MODE

Press △▽ to move the highlight bar (pointer) to "B.E.S.T.", then press **OK** or ▷ to set to "ON" or "OFF".


MODE SET
☞ B. E. S. T. ON
PICTURE CONTROL AUTO
AUTO TIMER OFF
O. S. D. ON
DIRECT REC ON
AUTO SP→LP TIMER OFF
DIGITAL 3R ON
NEXT PAGE
[▲▼] → OK
[MENU] : EXIT

5 RETURN TO NORMAL SCREEN

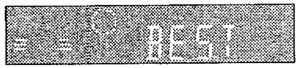
Press **MENU**.

Recording

1 START RECORDING

Press and hold **RECORD** and press **PLAY** on the remote, or press **RECORD** on the recorder.

DURING B.E.S.T.



B.E.S.T. COMPLETE

- The recorder spends approximately 7 seconds assessing the condition of the tape, then begins recording.

NOTES:

- *The B.E.S.T. system works for both SP and LP modes only after a tape has been inserted and the Record mode is first initiated. It does not work during recording.*
- *The B.E.S.T. system does not work while Auto Satellite Prog recording is in progress (☞ pg. 40).*
- *In the case of timer recording, the B.E.S.T. system works before recording is initiated.*
- *Once the cassette is ejected, the B.E.S.T. data is cancelled. The next time the cassette is used for recording, B.E.S.T. is re-performed.*
- *Pressing the recorder's **RECORD** button while "BEST" is displayed does not start Instant Timer Recording (☞ pg. 16).*

ATTENTION

*Since the B.E.S.T. system works before recording actually starts, there is a delay of approximately 7 seconds after **RECORD** and **PLAY** on the remote are pressed, or **RECORD** on the recorder is pressed. To make sure you record the desired scene or programme in its entirety, first perform the following steps:*

*1) Press and hold **PAUSE** and press **RECORD** to engage the RECORD PAUSE mode.*
   - *The recorder then automatically checks the condition of the tape and, after approximately 7 seconds, re-enters RECORD PAUSE.*

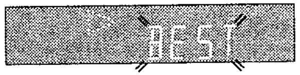
*2) Press **PLAY** when you are ready to start recording.*
   - *If you want to bypass the B.E.S.T. system and begin recording immediately, set "B.E.S.T." to "OFF" in step **4** on page 34.*

Playback

The recorder assesses the quality of the tape once you initiate playback.

1 START PLAYBACK

Press **PLAY**.

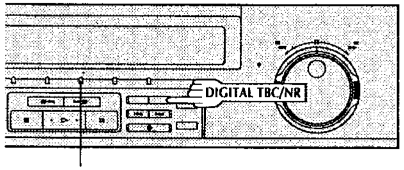


- The recorder adjusts the playback picture quality based on the quality of the tape in use.
- B.E.S.T. is active during Auto Tracking. "BEST" appears blinking on the recorder's display panel.

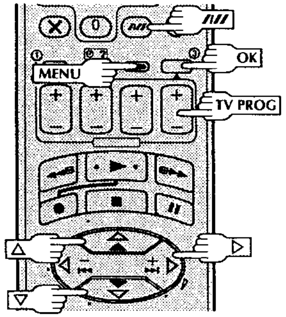
NOTES:

- *When watching a tape recorded with "B.E.S.T." set to "ON", it is recommended that you leave B.E.S.T. on during playback as well.*
- *When watching a rental tape or one recorded on another video recorder, or when using this recorder as the player for editing, set B.E.S.T. to your preference by performing steps **1** through **5** on page 34.*
- *"BEST" only appears at the beginning of automatic tracking. Even though it doesn't appear after that, the B.E.S.T. function is operative.*

Playback Picture Adjustment

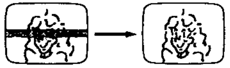


DIGITAL TBC/NR indicator



Manual Tracking

Your video recorder is equipped with automatic tracking control. For most tapes this will automatically adjust the tracking to suit the particular tape you are playing. In some circumstances it may be necessary to make manual tracking adjustments. This is usually only associated with old or worn tapes or recordings made on old or worn recorders. If the automatic tracking control fails to operate correctly you will see noise bars across the picture as shown on the left below. To correct this you can override the automatic control and adjust the tracking manually by pressing the **TV PROG** buttons.



1 OVERRIDE AUTOMATIC TRACKING

Press **/II/** on the remote to engage manual tracking.

2 ADJUST TRACKING MANUALLY

Press **TV PROG** + or – to adjust tracking.

3 RETURN TO AUTOMATIC TRACKING

Press **/II/** on the remote to re-engage automatic tracking.

NOTE:

When a new tape is inserted, the recorder returns to the automatic tracking mode automatically.

Digital TBC/NR (S-VHS/VHS Mode Only)

Your video recorder is equipped with the Digital TBC (Time Base Corrector) that removes jitter from fluctuating video signals to deliver a stable picture even with old tapes and rental cassettes.
The on/off of Digital 3-DNR (Noise Reduction) which cuts noise and enables clear picture reproduction is also linked to this function.
* The default setting is "ON".

We recommend that you use the Digital TBC feature when...
... playing back a tape recorded on a camcorder.
... playing back a tape repeatedly used.
... using this video recorder as the player for editing.

1 ACTIVATE DIGITAL TBC/NR

Press **DIGITAL TBC/NR** so that the DIGITAL TBC/NR indicator lights up.

- To turn off DIGITAL TBC/NR, press **DIGITAL TBC/NR** again so that the indicator goes off.

NOTES:

- *If you play back a tape recorded under poor TV reception condition, there may be cases where the picture becomes more stable with Digital TBC/NR set to off.*
- *When Digital TBC/NR is set to on, if you play back a tape where certain types of signals are recorded (using a PC or some character generators), the playback picture may be distorted. If this is the case, turn off Digital TBC/NR.*

Digital 3R (S-VHS/VHS Mode Only)

Digital 3R picture system applies edge correction to the luminance and chrominance signals to enhance detail.

1 ACCESS MAIN MENU SCREEN

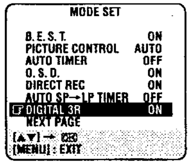
Press **MENU**.

2 ACCESS MODE SET SCREEN

Move the highlight bar (arrow) to "MODE SET" by pressing △▽, then press **OK** or ▷.

3 SELECT DIGITAL 3R SET MODE

Move the highlight bar (arrow) to "DIGITAL 3R" by pressing △▽, then press **OK** or ▷ to set to "ON".



MODE SET

B.E.S.T. ON
PICTURE CONTROL AUTO
AUTO TIMER OFF
O.S.D. ON
DIRECT REC ON
AUTO SP→LP TIMER OFF
☞ DIGITAL 3R ON
NEXT PAGE
[▲▼] → OK
[MENU] : EXIT

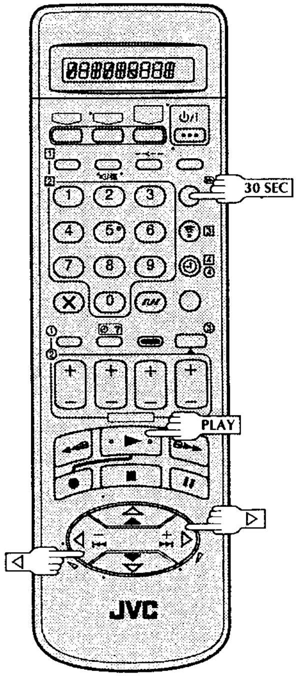
4 RETURN TO NORMAL SCREEN

Press **MENU**.

NOTES:

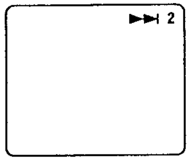
- *Normally it is recommendable to keep "DIGITAL 3R" set to "ON".*
- *Depending on the type of tape being used, picture quality may sometimes be better with "DIGITAL 3R" set to "OFF".*

Looking For The Scene You Want



Index Search

Your recorder automatically marks index codes at the beginning of each recording. This function gives you quick access to any one of 9 index codes in either direction.



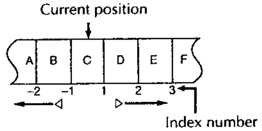
NOTE:

Before starting, make sure the recorder is in the Stop mode.

1 ACTIVATE INDEX SEARCH

Press ◁ or ▷ (I◄◄ or ►►I). "I◄◄ 1" or "►►I 1" is displayed on screen and search begins in the corresponding direction.

- To access index codes 2 through 9, press ◁ or ▷ repeatedly until the correct index number is displayed.
  Ex.: To locate the beginning of B from the current position, press ◁ twice.
  To locate the beginning of D from the current position, press ▷ once.



- When the specified index code is located, playback begins automatically.

Skip Search

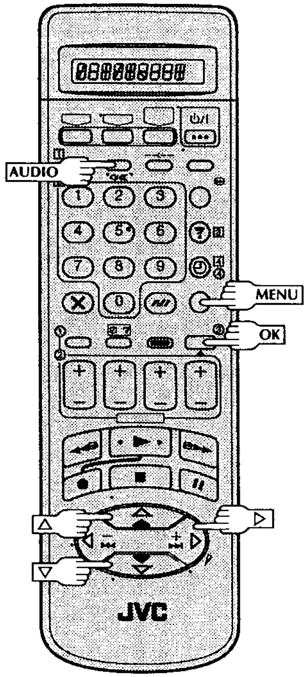
1 SKIP OVER UNWANTED SECTIONS

Press **30 SEC** 1 to 4 times during playback. Each press initiates a 30-second period of fast-motion playback. Normal playback resumes automatically.

NOTE:

To return to normal playback during a Skip Search, press ***PLAY****.*

Selecting The Sound You Want



Receiving NICAM Stereo And Bilingual Programmes

Your recorder is equipped with a Digital stereo sound decoder (NICAM), making reception of stereo and bilingual broadcasts possible.

When the recorder is tuned to a different station, the type of broadcast being received will be displayed on the TV screen for a few seconds.

Type of Broadcast Being Received	On-screen Display
Regular Monaural	(none)
NICAM Stereo	ST NICAM
NICAM Bilingual	BIL NICAM
NICAM Monaural	NICAM

- To listen to a stereo programme, press **AUDIO** until "▷" and "◁" appear on the front display panel or "L ▷ ◁ R" appears on the screen.
- To listen to a bilingual programme, press **AUDIO** until either "▷" or "◁" appears on the front display panel or "L ▷" or "◁ R" appears on the screen (as required).
- **S-VHS/VHS mode**
  To listen to the Standard (regular monaural) audio while receiving a NICAM broadcast, press **AUDIO** until "NORM" appears on the front display panel or on the screen.

NOTES:

- *The NICAM audio programme will be recorded on the Hi-Fi audio track, and the Standard audio programme on the normal audio track.*
- *If the quality of stereo sound being received is poor, the broadcast will be received in monaural with better quality.*
- *Before playing back a programme recorded in stereo, or a bilingual programme, refer to "Soundtrack Selection" (See page 39).*
- *"O.S.D." must be set to "ON" or the on-screen displays will not appear (☞ pg. 53).*

To Record NICAM Stereo And Bilingual Programmes (Only For The Users In Eastern Europe)

- **S-VHS/VHS mode**
  The NICAM audio programme will be recorded on the Hi-Fi audio track, and the Standard audio programme on the normal audio track.
- **D-VHS mode** (See "Audio Rec Mode Setting" on page 39.)

NOTES:

- *If the quality of stereo sound being received is poor, the broadcast will be received in monaural with better quality.*
- *Before playing back a programme recorded in stereo, or a bilingual programme, refer to "Soundtrack Selection" (☞ pg. 39).*

Soundtrack Selection (S-VHS/VHS Mode)

Your video recorder is capable of recording three soundtracks (Hi-Fi L, Hi-Fi R and NORM) in the S-VHS/VHS mode and will play back the one you select.

During Playback
Pressing **AUDIO** on the remote control changes the soundtrack being played back as follows:

TRACK		USE
Recorder's Front Panel	On-Screen Display	
▷ + ◁	L ▷ ◁ R	For Hi-Fi stereo tapes
▷	L ▷	For main audio of Bilingual tapes
◁	◁ R	For sub audio of Bilingual tapes
NORM	NORM	For audio-dubbed tapes
▷ + ◁ + NORM	L ▷ ◁ R NORM	For audio-dubbed tapes

NOTES:

- *"▷ + ◁" should normally be selected. In this mode, Hi-Fi stereo tapes are played back in stereo, and the normal audio track is played back automatically for tapes with only normal audio.*
- *For instructions on recording NICAM stereo and bilingual programmes, see page 38.*
- *Bilingual programmes are not currently broadcast in the U.K.*
- *"O.S.D." must be set to "ON" or the on-screen displays will not appear (☞ pg. 53).*

Soundtrack Selection (D-VHS Mode)

Your video recorder is capable of recording two soundtracks (L and R) in the D-VHS mode and will play back the one you select.

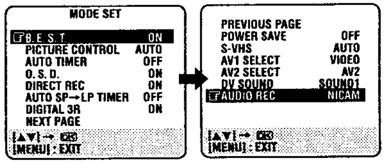
During Playback
Pressing **AUDIO** on the remote control changes the soundtrack being played back as follows:

TRACK		USE
Recorder's Front Panel	On-Screen Display	
▷ + ◁	L ▷ ◁ R	For stereo tapes
▷	L ▷	For main audio of Bilingual tapes
◁	◁ R	For sub audio of Bilingual tapes

Audio Rec Mode Setting (D-VHS Mode Only)

1. Press **MENU** to access the Main Menu screen.
2. Move the highlight bar (pointer) to "MODE SET" by pressing △▽, then press **OK** or ▷.
3. Move the highlight bar (pointer) to "AUDIO REC" by pressing △▽, then press **OK** or ▷ to select "NICAM" or "MONO".
4. Press **MENU** to return to the normal screen.

- When "AUDIO REC" is set to "NICAM", the NICAM audio programme will be recorded on the audio track.
- When "AUDIO REC" is set to "MONO", the Standard (monaural) audio program will be recorded on the audio track.

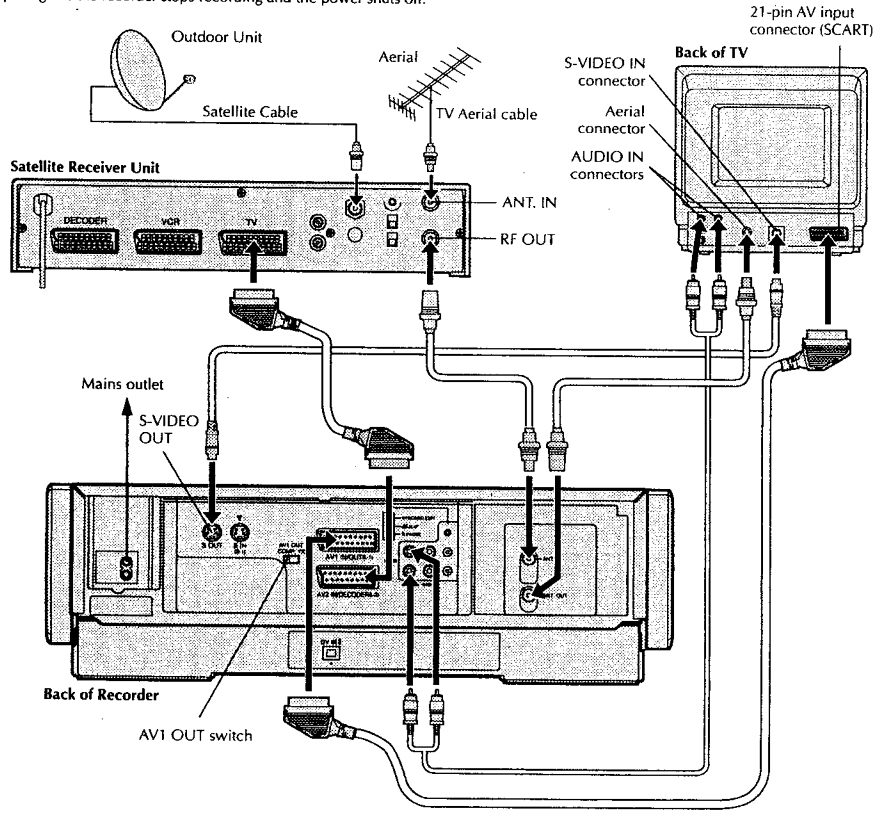


MODE SET
B.E.S.T. ON
PICTURE CONTROL AUTO
AUTO TIMER OFF
O. S. D. ON
DIRECT REC ON
AUTO SP→LP TIMER OFF
DIGITAL 3R ON
NEXT PAGE
[▲▼] → OK
[MENU] : EXIT

PREVIOUS PAGE
POWER SAVE OFF
S-VHS AUTO
AV1 SELECT VIDEO
AV2 SELECT AV2
DV SOUND SOUND1
AUDIO REC NICAM
[▲▼] → OK
[MENU] : EXIT

Automatic Satellite Programme Recording

This facility allows you to record automatically a satellite programme which is timer-programmed on your external satellite receiver. Connect a satellite receiver to the recorder's AV2 IN/DECODER connector and programme the timer on the satellite receiver; the recorder starts recording when the signals input from the satellite receiver to the AV2 IN/DECODER connector, and when there is no input signals the recorder stops recording and the power shuts off.

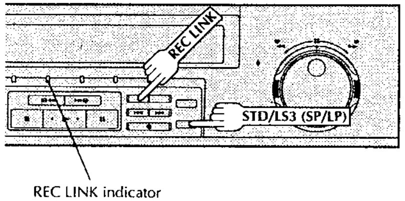


IMPORTANT

When you set "AV2 SELECT" to "SAT" (☞ pg. 50), it is possible to view a satellite broadcast with the TV set to its AV mode even if the recorder is in Timer mode, in Stop mode, recording or turned off. When the recorder is in Stop mode or recording, press **TV/VCR** on the remote control to turn off the VCR indicator on the display panel.
- *In this case, be sure to set the **AV1 OUT** switch on the rear panel to COMP.*

NOTES:

- *Set the satellite receiver's output mode to Composite.*
- *Refer to the instructions supplied with your satellite receiver.*



ATTENTION

- Be sure not to turn on the satellite receiver before the programme is executed; otherwise, the recorder will start recording when the satellite receiver's power is turned on.
- If you have connected another appliance other than a satellite receiver to the AV2 IN/DECODER connector, be sure not to engage the Auto Satellite Prog Rec mode; otherwise, the recorder will start recording when the connected appliance's power is turned on.
- Auto Satellite Prog recording and timer-recording cannot be done at the same time.
- When you press and hold the recorder's **REC LINK** button to engage the Auto Satellite Prog Rec mode, if the REC LINK indicator does not light but instead blinks quickly even though your satellite receiver's power is off, Auto Satellite Prog Recording will not work properly with that satellite receiver*.
  If this is the case, perform "Express Timer Programming" (☞ pg. 20) to timer-record a satellite programme.
  ** Some satellite receivers output signals even if the power is off. Auto Satellite Prog Recording is not possible with those satellite receivers.*

Before performing the following steps:
- Make sure the satellite receiver is connected to the recorder's AV2 IN/DECODER connector. (☞ pg. 40)
- Programme the timer on the satellite receiver.
- Insert a cassette with the safety tab in place.
- Set the appropriate recording mode (D-VHS, S-VHS or VHS) (☞ pg. 14, 15).

1

ACCESS MAIN MENU SCREEN

Press **MENU**.

2

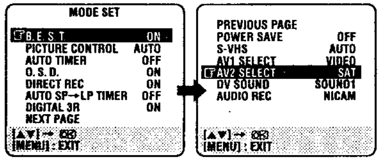
ACCESS MODE SET SCREEN

Move the highlight bar (pointer) to "MODE SET" by pressing △▽, then press **OK** or ▷.

3

SELECT AV2 SELECT MODE

Move the highlight bar (pointer) to "AV2 SELECT", by pressing △▽, then press **OK** or ▷ to set to "SAT".


```
MODE SET

☞B.E.S.T.              ON
 PICTURE CONTROL     AUTO
 AUTO TIMER           OFF
 O.S.D.                ON
 DIRECT REC            ON
 AUTO SP→LP TIMER     OFF
 DIGITAL 3R            ON
 NEXT PAGE
[▲▼]→ OK
[MENU] : EXIT
```

```
 PREVIOUS PAGE
 POWER SAVE           OFF
 S-VHS               AUTO
 AV1 SELECT         VIDEO
☞AV2 SELECT           SAT
 DV SOUND          SOUND1
 AUDIO REC          NICAM

[▲▼]→ OK
[MENU] : EXIT
```

4

SET TAPE SPEED

D-VHS mode:
Press **STD/LS3** (***////***) to set the tape speed.
S-VHS or VHS mode:
Press **SP/LP** (***////***) to set the tape speed.

5

ENGAGE AUTO SATELLITE PROG REC MODE

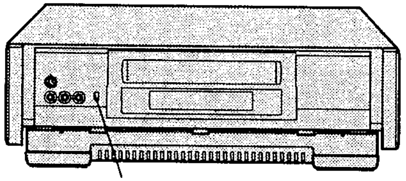
Press and hold **REC LINK** for about 2 seconds. The REC LINK indicator lights up and the recorder turns off automatically.

- To disengage the Auto Satellite Prog Rec mode, press **REC LINK**. The REC LINK indicator goes off.
- If the recorder's power is off, it is not possible to engage the Auto Satellite Prog Rec mode.

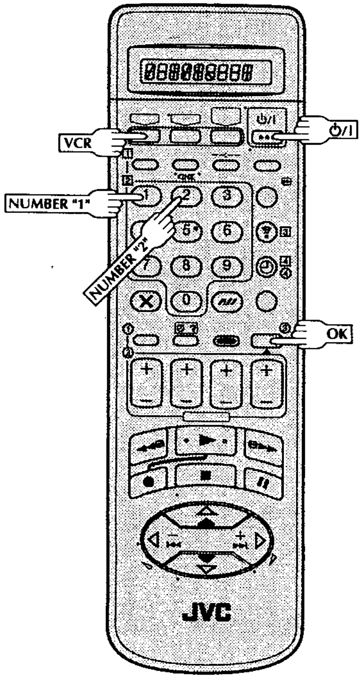
NOTES:

- *Auto Satellite Prog recording is possible with the AV2 IN/DECODER connector only.*
- *When the Auto Satellite Prog Rec mode is engaged or the recorder's power is turned off after Auto Satellite Prog recording is finished, the recorder will not enter the Timer mode even though "AUTO TIMER" is set to "ON".*
- *For timer programming of the satellite receiver, refer to the instruction manual of the satellite receiver.*
- *Auto Satellite Prog recording is not possible if your satellite receiver does not have a timer.*
- *The REC LINK indicator blinks while Auto Satellite Prog recording is in progress.*
- *Pressing the recorder's ⏻/I button while Auto Satellite Prog recording is in progress turns off the recorder's power and disengages the Auto Satellite Prog Rec mode.*
- *If there is more than one satellite programme you wish to record with Auto Satellite Prog Recording, it is not possible to set a different tape speed for each; the tape speed selected in step **4** will apply to all the programmes for Auto Satellite Prog recording.*
- *The B.E.S.T. system (☞ pg. 34) does not work while Auto Satellite Prog recording is in progress.*
- *Just Clock (☞ pg. 66) does not work when the Auto Satellite Prog Rec mode is engaged.*
- *Depending on the type of satellite receiver, the recorder may not record a short portion at the beginning of the programme or may record slightly longer than the actual length of the programme.*
- *If you engage the Auto Satellite Prog Rec mode when the satellite receiver's power is on, the recorder will not start Auto Satellite Prog recording even though the REC LINK indicator blinks. When the satellite receiver shuts off once and is turned back on again, the recorder starts recording.*
- *You can also record a programme from your cable system in the same way if the system has a timer and is connected to the recorder's AV2 IN/DECODER connector.*

Remote Control Functions



Remote control code switch



Remote A/B Code Switching

The remote control is capable of controlling two JVC video recorders independently; one set to respond to the remote control's A code control signals and another set to respond to B code control signals. The remote control is preset to send A code signals because your video recorder is initially set to respond to A code signals. You can easily modify your video recorder to respond to B code signals.

1 SET REMOTE CONTROL CODE

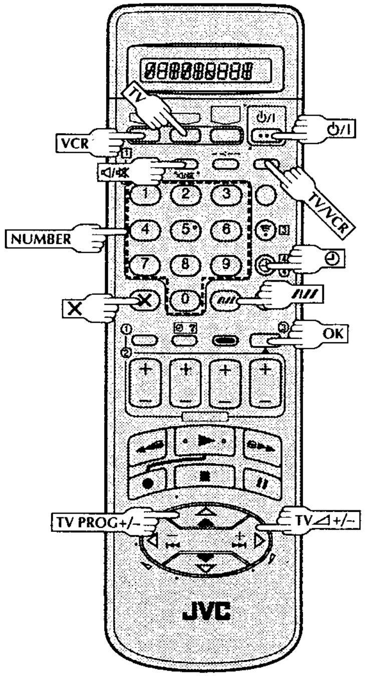
Slide the remote control code switch on the recorder to "B".

AND

Press and hold **VCR** on the remote control for over 2 seconds, press the **NUMBER** key "2" and then press **OK**.

NOTES:

- *To set the recorder back to respond to A code signals, repeat the same procedure as shown above, except sliding the remote control code switch to "A" and pressing **NUMBER** key "1" instead of "2" in step **1**.*
- *If you don't want to control the recorder by the remote control, slide the remote control code switch to "OFF".*



Control Your TV Using Additional Buttons

Use the **NUMBER** keys, and the **////** button, ✕ button or ⊕ button to select the TV's channel.

- With televisions under Code 01, 02, 07, 10, 11, 14, 20, 23, 24, 25, 27, 33 or 35, the **////** button corresponds to the 1-digit/2-digit entry switching button (often labelled – /– –) of your TV's remote control.
- With televisions under Code 01, 28, 29 or 34, the ✕ button corresponds to the 10 + button, and the ⊕ button corresponds to the 20 + button of your TV's remote control.

NOTE:

The way these buttons are used is determined by your TV. Use these buttons as instructed for your TV's remote control.

TV Multi-brand Remote Control

Your remote control can operate the basic functions of your TV set. In addition to JVC TVs, other manufacturer's TVs can also be controlled.

Before you start . . .
- Turn off the TV using its remote control.

1 SET TV BRAND CODE

Refer to the chart below. Press and hold **TV** on the recorder's remote control for over 2 seconds, enter your TV's brand code using the **NUMBER** keys, then press **OK**.
Check if the TV's power goes on as it should. If it does, try other operations (☞ step **2**).

- Once you have set the remote control to operate the TV, you don't have to repeat this step until you replace your remote control's batteries.
- JVC and SAMSUNG have more than one code. If the TV does not function with one code, try entering another.

2 OPERATE TV

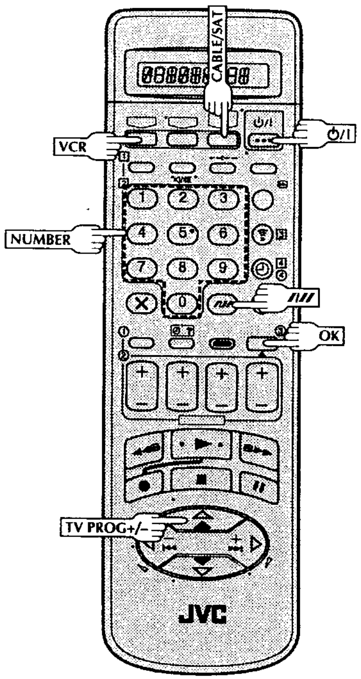
First, press **TV** to set the remote control to TV mode, then press the corresponding button: ⏻/I, **TV PROG +/–**, **TV/VCR**, **TV ◁ +/–** (Volume), **◁/🔇** (Muting), **NUMBER** keys.

- For some brands of TV, you must press **OK** after having pressed the **NUMBER** keys.
- To return the remote to video recorder control, press **VCR**.

IMPORTANT

Although the provided remote control unit is compatible with JVC televisions, as well as many other models, it may not work with your TV, or in some instances, may have limited function capability.

TV BRAND NAME	CODE
JVC	01, 23, 24, 25
BLAUPUNKT	19
BRANDT	26
FERGUSON	27
FINLUX	30
FUNAI	32
LG/GOLDSTAR	18
GRAETZ	28
GRUNDIG	19
HITACHI	10
ITT	28
LUXOR	28
MITSUBISHI	03
MIVAR	29
NEC	20
NOKIA	31
NORDMENDE	26
PANASONIC	11
PHILIPS	02
SABA	26
SALORA	28
SAMSUNG	02, 12, 33, 34, 35
SELECO	28
SHARP	06
SONY	07
TELEAVIA	26
TELEFUNKEN	26
THOMSON	26
TOSHIBA	14



Satellite Receiver Multi-Brand Remote Control

Your remote control can operate the basic functions of your satellite receiver set. In addition to JVC satellite receivers, other manufacturer's satellite receivers can also be controlled.

Before you start . . .
- Turn off the satellite receiver using its remote control.

1 SET SATELLITE RECEIVER BRAND CODE

Refer to the chart below. Press and hold **CABLE/SAT** on the recorder's remote control for over 2 seconds, enter your satellite tuner's brand code using the **NUMBER** keys, then press **OK**.
Check if the satellite receiver's power goes on as it should. If it does, try other operations (☞ step **2**).

- Once you have set the remote control to operate the satellite receiver, you don't have to repeat this step until you replace your remote control's batteries.
- Some satellite receiver brands have more than one code. If the satellite receiver does not function with one code, try entering another.

2 OPERATE SATELLITE RECEIVER

First, press **CABLE/SAT** to set the remote control to satellite tuner mode, then press the corresponding button: ⏻/I, **TV PROG +/–**, **NUMBER** keys.

- For VIDEOWAY or some other brands of satellite receiver, you must press **/|||** after having pressed the **NUMBER** keys.
- The **NUMBER** buttons may not function with some satellite receivers.
- To return the remote to video recorder control, press **VCR**.

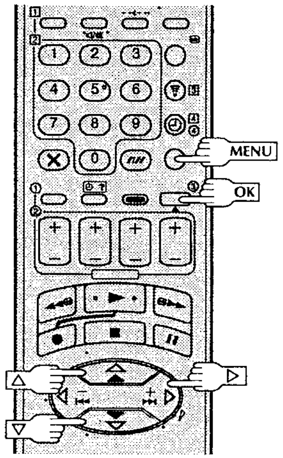
IMPORTANT

Although the provided remote control unit is compatible with JVC satellite receivers, as well as many other models, it may not work with your satellite receiver, or in some instances, may have limited function capability.

SATELLITE TUNER BRAND	CODE
JVC	72, 73
AMSTRAD	60, 61, 62, 63
BT	72
CANAL +	81
FINLUX	68
GRUNDIG	64, 65
HIRSCHMANN	64
ITT	68
JERROLD	75
KATHREIN	70, 71
LUXOR	68
MASPRO	70
NOKIA	68
PACE	65, 67
PANASONIC	74
PHILIPS	66
RFT	69
SALORA	68
SIEMENS	64
SKYMASTER	69
VIDEOWAY	76
WISI	64

Minimizing Picture Degradation While Editing (S-VHS/VHS Mode Only)

Turn on the TV and select the AV mode.



Advantages Of S-VHS Video Recorders

You can edit from VHS to S-VHS, S-VHS to VHS, or, from S-VHS to S-VHS.
- From VHS to S-VHS: Record VHS playback signals in the S-VHS mode. Although the picture quality is inherently limited by that of the original, the edited tape has better picture quality than those made by VHS-to-VHS editing.
- From S-VHS to VHS: Because the picture quality of the source material is very high, the edited tape has better picture quality than those made by VHS-to-VHS editing.
- From S-VHS to S-VHS: All signals will be transferred with minimum degradation.

Picture Control

This feature helps you to adjust the playback picture quality according to your preference. *The default setting is "AUTO."

1 ACCESS MAIN MENU SCREEN

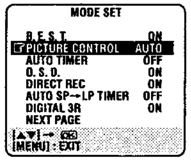
Press **MENU**.

2 ACCESS MODE SET SCREEN

Move the highlighted bar (pointer) to "MODE SET" by pressing △▽, then press **OK** or ▷.

3 SELECT PICTURE CONTROL SET MODE

Move the highlighted bar (pointer) to "PICTURE CONTROL" by pressing △▽, then press **OK** or ▷ to select the desired mode.


MODE SET
B.E.S.T. ON
☞PICTURE CONTROL AUTO
AUTO TIMER OFF
O. S. D. ON
DIRECT REC ON
AUTO SP→LP TIMER OFF
DIGITAL 3R ON
NEXT PAGE

AUTO: Provides optimised picture benefits of B.E.S.T. Picture System. Normally select AUTO.
EDIT: Minimizes picture degradation during editing (recording and playback).
SOFT: Reduces image coarseness when viewing overplayed tapes containing a lot of noise.
SHARP: Clearer, sharper-edged picture when viewing images with lots of flat, same-coloured surfaces such as cartoons.

NOTES:

- ◆ *When you select EDIT, SOFT or SHARP, the selected mode will not change until you select again.*
- ◆ *When you select EDIT to dub tapes, be sure to select AUTO after you finish dubbing the tapes.*

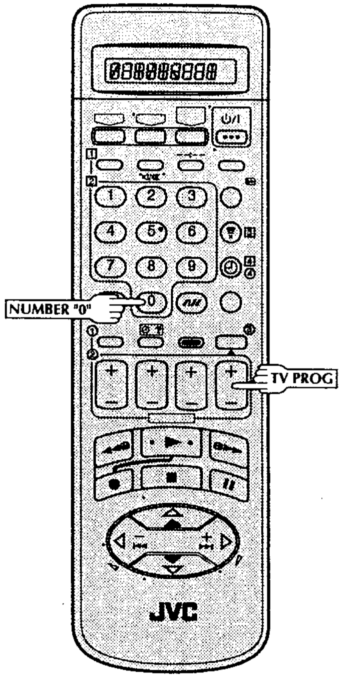
4 RETURN TO NORMAL SCREEN

Press **MENU**.

NOTES:

- *When B.E.S.T. is OFF, "PICTURE CONTROL" switches automatically from AUTO to NORM.*
- *Select EDIT when you are dubbing tapes. Refer to page 48.*

Edit From A Camcorder


NUMBER "0"
TV PROG
JVC

NOTES:

- *All necessary cables can be obtained from your dealer.*
- *You can also use another video recorder as the player instead of a camcorder.*
- *When you select EDIT to dub tapes in step **4**, be sure to select AUTO (or NORM when B.E.S.T. is set to OFF) after you finish dubbing the tapes.*
- *When you are editing through the DV IN connector, the recorder will stop if the player begins playing a blank portion of tape or the signal is interrupted.*

You can use a camcorder as the source player and your video recorder as the recorder.
You can perform digital editing if the camcorder has a DV output connector.

1 MAKE CONNECTIONS

A *If the camcorder has no S-VIDEO output connector...*
... connect the camcorder's AUDIO/VIDEO OUT connectors to the recorder's front panel AUDIO/ VIDEO input connectors.

B *If the camcorder has an S-VIDEO output connector...*
... connect the camcorder's S-VIDEO OUT and AUDIO OUT connectors to the recorder's front panel S-VIDEO and AUDIO input connectors.

C *If the camcorder has a DV OUT connector...*
... connect the camcorder's DV OUT connector to the recorder's DV IN connector.
See "DV Sound Setting" (☞ pg. 47) for the DV sound selection.

- When using a monaural camcorder, connect its AUDIO OUT connector to the AUDIO L input connector on your recorder.
- When a Master Edit Control-equipped JVC camcorder is used, the camcorder is capable of controlling the recorder. Refer to the camcorder's instruction manual for operating procedure.

2 SET RECORDING MODE

Set the appropriate recording mode (D-VHS, S-VHS or VHS) (☞ pg. 14, 15, 32, 33).

3 SET RECORDER'S INPUT MODE

Press **NUMBER** key "0" and/or **TV PROG** to select "F-1" for the AUDIO/VIDEO input connectors, "S-2" for the AUDIO/S-VIDEO input connectors, or "I-1" for the DV input connectors, depending on the connectors being used.

4 SET EDIT MODE (S-VHS/ VHS MODE ONLY)

See "Picture Control" on page 45.

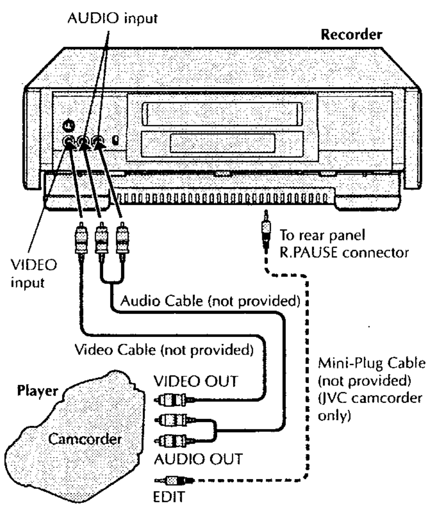
5 START CAMCORDER

Engage its Play mode.

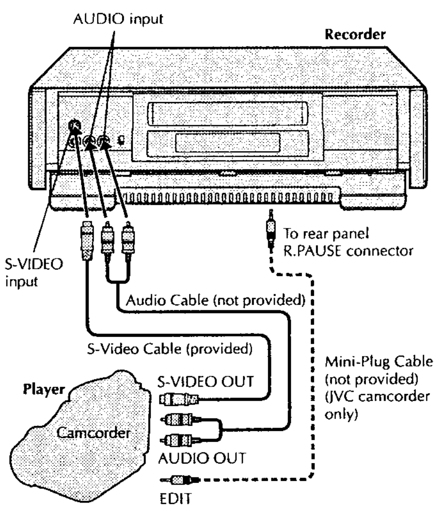
6 START RECORDER

Engage its Record mode.

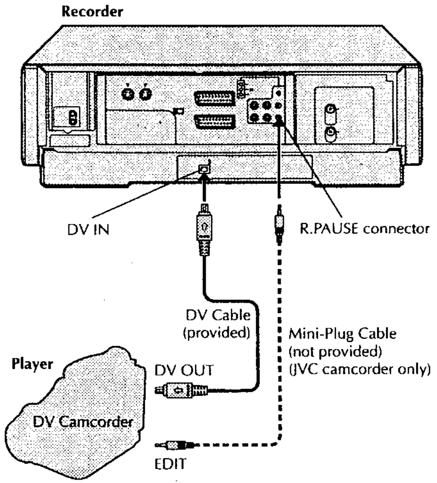
A If the camcorder has no S-VIDEO output connector...


AUDIO input
Recorder
VIDEO input
To rear panel R.PAUSE connector
Audio Cable (not provided)
Video Cable (not provided)
Mini-Plug Cable (not provided) (JVC camcorder only)
Player
Camcorder
VIDEO OUT
AUDIO OUT
EDIT

B If the camcorder has an S-VIDEO output connector...


AUDIO input
Recorder
S-VIDEO input
To rear panel R.PAUSE connector
Audio Cable (not provided)
S-Video Cable (provided)
Mini-Plug Cable (not provided) (JVC camcorder only)
Player
Camcorder
S-VIDEO OUT
AUDIO OUT
EDIT

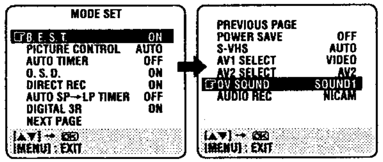
C If the camcorder has a DV OUT connector...


Recorder
DV IN
R.PAUSE connector
DV Cable (provided)
Mini-Plug Cable (not provided) (JVC camcorder only)
Player
DV Camcorder
DV OUT
EDIT

DV Sound Setting

Up to four audio signal channels can be input from a DV camcorder through the DV IN connector (i.Link). This recorder allows you to select and record two of these channels. This setting is used to specify which two channels to record.

1 Press **MENU** to access the Main Menu screen.
2 Move the highlight bar (pointer) to "MODE SET" by pressing △▽, then press **OK** or ▷.
3 Move the highlight bar (pointer) to "DV SOUND" by pressing △▽, then press **OK** or ▷ to select "SOUND1", "SOUND2" or "FULL".


```
MODE SET
☞B.E.S.T.              ON
 PICTURE CONTROL      AUTO
 AUTO TIMER            OFF
 O.S.D.                 ON
 DIRECT REC             ON
 AUTO SP→LP TIMER      OFF
 DIGITAL 3R             ON
 NEXT PAGE
[▲▼] → OK
[MENU] : EXIT
```

```
 PREVIOUS PAGE
 POWER SAVE            OFF
 S-VHS                AUTO
 AV1 SELECT          VIDEO
 AV2 SELECT            AV2
☞DV SOUND           SOUND1
 AUDIO REC           NICAM
[▲▼] → OK
[MENU] : EXIT
```

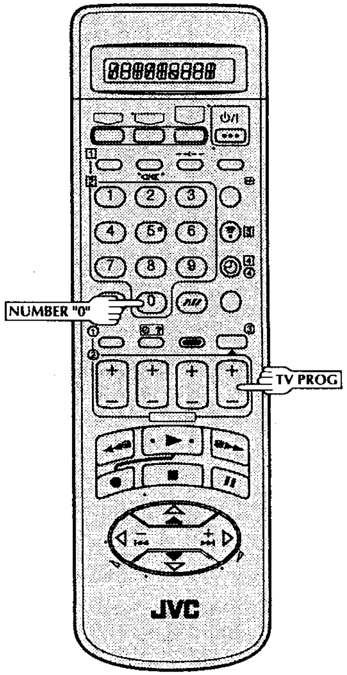
When there are four DV audio channels (32kHz):

SOUND1:	Records the two channels (L/R) of DV SOUND 1.
SOUND2:	Records the two channels (L/R) of DV SOUND 2.
FULL:	Mixes and records both DV SOUND 1 and 2.

When there are two DV audio channels (48kHz):
Because there are only two channels, those two channels are recorded regardless of the DV sound setting.

4 Press **MENU** to return to the normal screen.

Edit To Or From Another Video Recorder


NUMBER "0"
TV PROG
JVC

You can use your video recorder as the source player or as the recording deck.

1

MAKE CONNECTIONS

Connect the player's 21-pin SCART connector to the recorder's 21-pin SCART connector as illustrated on page 49.

[A] *When Using Your Video Recorder As The Source Player ...*
... connect its AV1 IN/OUT connector to the recording deck.

[B] *When Using Your Video Recorder As The Recording Deck ...*
... connect its AV2 IN/DECODER or AV1 IN/OUT connector to the source player.

[C] *If Another Recorder Is Compatible With The Y/C Signal ...*
... connect your recorder's AV1 IN/OUT connector to another recorder.

With [C] connection ...
- When using your recorder as the recording deck, set "AV1 SELECT" to "S-VIDEO" and "AV2 SELECT" to "AV2" (☞ pg. 50).
- When using your recorder as the source player, set the AV1 OUT switch on the rear panel to Y/C (☞ pg. 6).

2

SET RECORDING MODE

Set the appropriate recording mode (D-VHS, S-VHS or VHS) (☞ pg. 14, 15, 32, 33).

3

SET RECORDING DECK'S INPUT MODE

Set to AUX. With this video recorder, press **NUMBER** key "0" and/or **TV PROG** to select "L-1" for the AV1 IN/OUT connector, or "L-2" for the AV2 IN/DECODER connector, depending on the connector being used.

- When using the AV2 IN/DECODER connector, set "AV2 SELECT" to the appropriate mode. (☞ pg. 50)

4

SET EDIT MODE (S-VHS/VHS MODE ONLY)

See "Picture Control" on page 45.

5

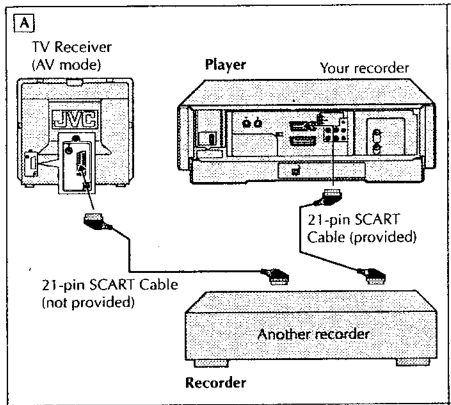
START SOURCE PLAYER

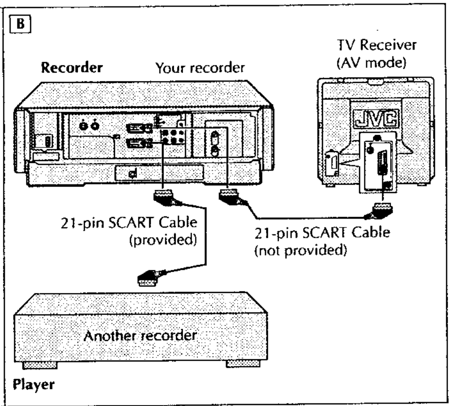
Engage its Play mode.

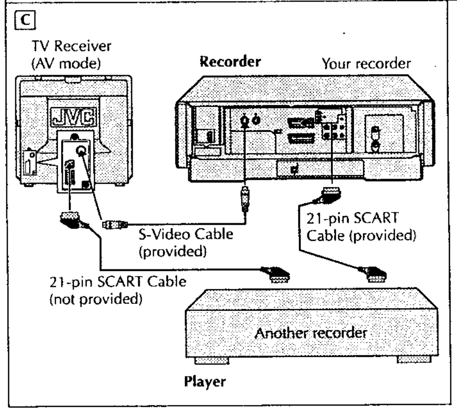
6

START RECORDING DECK

Engage its Record mode.


A
TV Receiver
(AV mode)
Player
Your recorder
JVC
21-pin SCART
Cable (provided)
21-pin SCART Cable
(not provided)
Another recorder
Recorder


B
Recorder
Your recorder
TV Receiver
(AV mode)
JVC
21-pin SCART Cable
(provided)
21-pin SCART Cable
(not provided)
Another recorder
Player


C
TV Receiver
(AV mode)
Recorder
Your recorder
JVC
S-Video Cable
(provided)
21-pin SCART
Cable (provided)
21-pin SCART Cable
(not provided)
Another recorder
Player

NOTES:

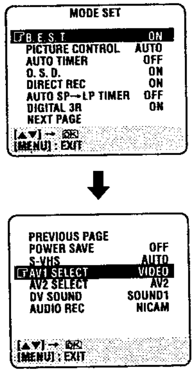
- *All necessary cables can be obtained from your dealer.*
- *For Y/C signal input/output, be sure to use a 21-pin SCART cable that is compatible with the Y/C signal.*
- *When you select EDIT to dub tapes in step **4**, be sure to select AUTO (or NORM when B.E.S.T. is set to OFF) after you finish dubbing the tapes.*
- *When you use this recorder as the player for editing, be sure to set "O.S.D." to "OFF" before starting (☞ pg. 47).*
- *If you are using another recorder with S-Video and Audio input/output connectors, you can connect those connectors to this recorder's S-VIDEO IN/S OUT and AUDIO IN/OUT connectors.*
  When Using Your Video Recorder As The Source Player ...
  ... connect its rear panel S OUT and AUDIO OUT connectors to the recording deck's S-Video and Audio input connectors.
  When Using Your Video Recorder As The Recording Deck ...
  ... connect its rear panel S-VIDEO and AUDIO input connectors to the source player's S-Video and Audio output connectors.
  Then, set the recorder's input mode to "S-1".

AV1 SELECT Setting

Set "AV1 SELECT" to the appropriate mode depending on the type of unit connected to the rear panel AV1 IN/OUT connector of this recorder.

1. Press **MENU** to access the Main Menu screen.
2. Press △▽ to move the highlight bar (pointer) to "MODE SET", then press **OK** or ▷.
3. Press △▽ to move the highlight bar (pointer) to "AV1 SELECT".
4. Press **OK** or ▷ to select "VIDEO" or "S-VIDEO".
   - a–VIDEO : If a connected device's output is compatible only with regular video signals, set "AV1 SELECT" to "VIDEO".
   - b–S-VIDEO : If a connected device's output is compatible with Y/C signals, set "AV1 SELECT" to "S-VIDEO". This setting will let you take advantage of higher-quality S-VHS pictures.
5. Press **MENU** to return to normal screen.

- If "AV2 SELECT" is set to "DECODER", it is impossible to set "AV1 SELECT" to "S-VIDEO".



```
MODE SET
☞B. E. S. T.             ON
 PICTURE CONTROL       AUTO
 AUTO TIMER             OFF
 O. S. D.                ON
 DIRECT REC              ON
 AUTO SP→LP TIMER       OFF
 DIGITAL 3R              ON
 NEXT PAGE
[▲▼] → OK
[MENU] : EXIT
```

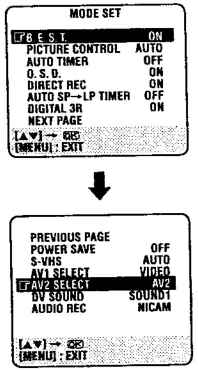
```
 PREVIOUS PAGE
 POWER SAVE             OFF
 S-VHS                 AUTO
☞AV1 SELECT           VIDEO
 AV2 SELECT             AV2
 DV SOUND            SOUND1
 AUDIO REC            NICAM
[▲▼] → OK
[MENU] : EXIT
```

AV2 SELECT Setting

Set "AV2 SELECT" to the appropriate mode depending on the type of unit connected to the rear panel AV2 IN/DECODER connector of this recorder.

1. Press **MENU** to access the Main Menu screen.
2. Press △▽ to move the highlight bar (pointer) to "MODE SET", then press **OK** or ▷.
3. Press △▽ to move the highlight bar (pointer) to "AV2 SELECT".
4. Press **OK** or ▷ to select "AV2", "DECODER" or "SAT".
   - a–AV2 : To use this recorder as the recording deck with the player connected to the AV2 IN/DECODER connector, or to use the satellite tuner connected to the AV2 IN/DECODER connector.
   - b–DECODER : To use a decoder connected to the AV2 IN/DECODER connector.
   - c–SAT : To view a satellite programme with the TV set while the recorder is in Timer mode, in Stop mode, recording or turned off. (☞ pg. 40)
5. Press **MENU** to return to normal screen.

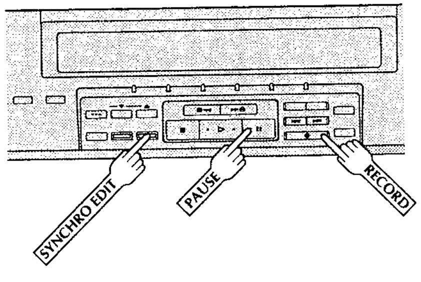
- If you have a satellite receiver or a decoder connected to the AV2 IN/DECODER connector, be sure to set "AV2 SELECT" back to appropriate mode after editing.
- If you're not connecting a satellite receiver or a decoder to the AV2 IN/DECODER connector, leave "AV2 SELECT" set to "AV2".
- The default setting is "AV2"; if the recorder's memory backup has expired due to a power cut or because the AC was removed from the recorder, "AV2" will be automatically selected when the power is restored to the recorder. If you are using a satellite receiver or a decoder, be sure to set "AV2 SELECT" back to appropriate mode.
- If the AV1 OUT switch on the rear panel is set to Y/C, it is impossible to set "AV2 SELECT" to "DECODER".

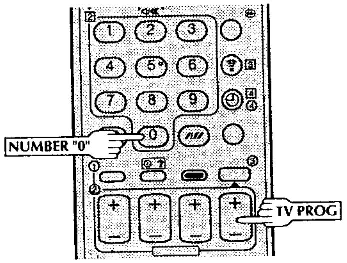


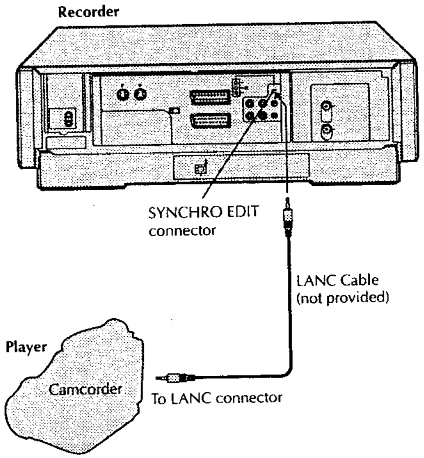
```
MODE SET
☞B. E. S. T.             ON
 PICTURE CONTROL       AUTO
 AUTO TIMER             OFF
 O. S. D.                ON
 DIRECT REC              ON
 AUTO SP→LP TIMER       OFF
 DIGITAL 3R              ON
 NEXT PAGE
[▲▼] → OK
[MENU] : EXIT
```

```
 PREVIOUS PAGE
 POWER SAVE             OFF
 S-VHS                 AUTO
 AV1 SELECT           VIDEO
☞AV2 SELECT             AV2
 DV SOUND            SOUND1
 AUDIO REC            NICAM
[▲▼] → OK
[MENU] : EXIT
```

Synchro Editing (S-VHS/VHS Mode Only)







The Synchro Editing function synchronizes the start of the playback and recording operations when starting an edit operation using a camcorder equipped with a LANC connector and your video recorder.

1 MAKE CONNECTIONS

Connect your recorder to camcorder (☞ pg. 46), and connect your recorder's SYNCHRO EDIT connector to the camcorder's LANC connector.

2 SET RECORDING MODE

Set the appropriate recording mode (S-VHS or VHS) (☞ pg. 15, 32, 33).

3 SET RECORDER'S INPUT MODE

Set the appropriate input mode, depending on the connectors being used in step **1**.

4 SET EDIT MODE

See "Picture Control" on page 45.

5 LOCATE START POINT

Start playback of the tape in the camcorder, and pause playback when you find the point where you want to start editing. Press and hold **PAUSE** and press **RECORD** on your recorder so that the recorder enters the Record-Pause Mode.

6 START SYNCHRO EDITING

Press **SYNCHRO EDIT**.

7 PAUSE SYNCHRO EDITING

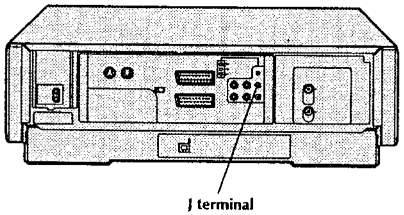
Press **SYNCHRO EDIT** again.

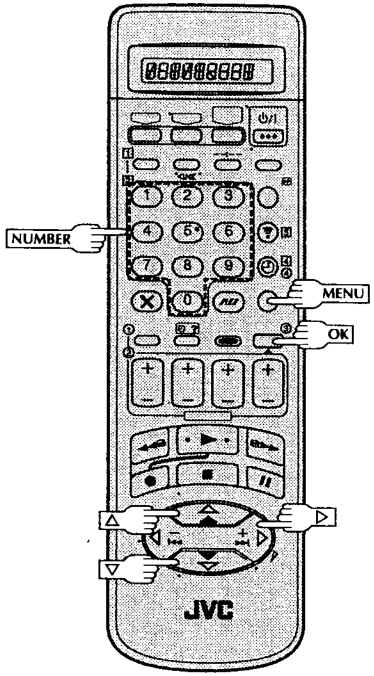
- Repeat steps **5** – **7** as necessary.

NOTES:

- *The Synchro Editing function is impossible with the connection using DV connector.*
- *The Synchro Editing function may not work with the initial part of a camcorder tape.*
- *The Synchro Editing function cannot be used when using the JLIP function. (Pressing **SYNCHRO EDIT** cancels the JLIP function.)*
- *The Synchro Editing function may not work properly with some type of camcorder.*
- *The Synchro Editing function enables the recorder to control a camcorder which has a LANC connector. It is not possible to control the recorder by a camcorder, even though the camcorder has a LANC conector.*
- *When you select EDIT to dub tapes in step **4**, be sure to select AUTO (or NORM when B.E.S.T. is set to OFF) after you finish dubbing the tapes.*

Information On J Terminal





J Terminal (JLIP (Joint Level Interface Protocol) Connector)

The J Terminal is used to connect the recorder to a personal computer or similar device to allow computerized control of the recorder during editing and certain other operations.

Example:
With the optional JLIP VIDEO CAPTURE BOX GV-CB3E:
- Allows you to capture still images from the recorder into a personal computer.

For further details consult your nearest JVC dealer.

JLIP ID Number

Your recorder has its own JLIP ID number. This ID number must be unique when your recorder is connected to another device via its J terminal. The ID Number is preset to "1" at the factory. You can change this number to any number between "1" and "99". If it is necessary to change the JLIP ID number perform the following steps.

1 ACCESS MAIN MENU SCREEN

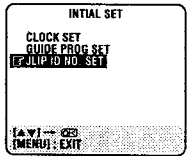
Press **MENU**.

2 ACCESS INITIAL SET SCREEN

Press ∆∇ to move the highlight bar (pointer) to "INITIAL SET", then press **OK** or ▷.

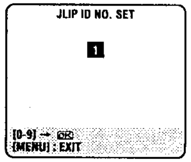
3 ACCESS JLIP ID NO. SET SCREEN

Press ∆∇ and move the highlight bar (pointer) to "JLIP ID NO. SET", then press **OK** or ▷.


INTIAL SET
CLOCK SET
GUIDE PROG SET
JLIP ID NO. SET
[▲▼] → OK
[MENU] : EXIT

4 SET JLIP ID NUMBER

Press **NUMBER** keys to enter the desired ID number.

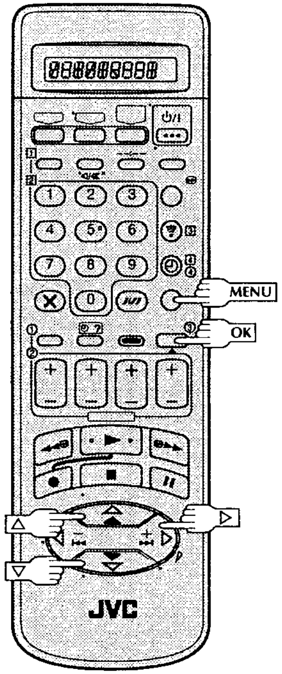

JLIP ID NO. SET
1
[0-9] → OK
[MENU] : EXIT

5 RETURN TO NORMAL SCREEN

Press **OK**.

Other Functions

Turn on the TV and select the AV mode.



On-Screen Display

You can choose whether or not to have various operational indicators appear on screen, by setting this function ON or OFF.

1 ACCESS MAIN MENU SCREEN

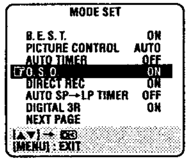
Press **MENU**.

2 ACCESS MODE SET SCREEN

Move the highlight bar (pointer) to "MODE SET" by pressing ∆∇, then press **OK** or ▷.

3 ENABLE/DISABLE ON-SCREEN DISPLAY

The default setting is "ON", so if you want on-screen displays, leave the setting as it is and go to step **4**. If you don't want the displays to appear, press ∆∇ to move the highlight bar (pointer) to "O.S.D." and press **OK** or ▷ to set "O.S.D." to "OFF".


MODE SET
B. E. S. T. ON
PICTURE CONTROL AUTO
AUTO TIMER OFF
O. S. D. ON
DIRECT REC ON
AUTO SP→LP TIMER OFF
DIGITAL 3R ON
NEXT PAGE
[▲▼] → OK
[MENU] : EXIT

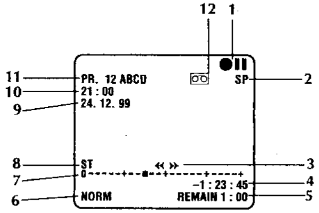
4 RETURN TO NORMAL

Press **MENU**.

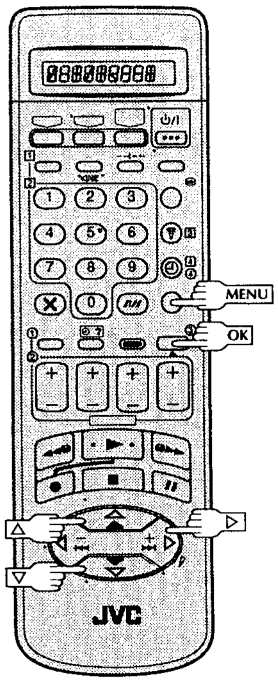
NOTES:

- *When you use this recorder as the player for editing, be sure to set "O.S.D." to "OFF" before starting.*
- *During playback, the operation mode indicators may sometimes be disturbed depending on the type of tape being used.*

The superimposed indication on the TV screen tells you what the recorder is doing.



1– Operation mode indicators
2– Tape speed SP/LP/EP (EP is for NTSC playback only)
3– Tape direction
4– Counter display
5– Tape remaining time indicator (☞ pg. 17)
6– Audio mode display (☞ pg. 39)
7– Tape position indicator (☞ pg. 12)
8– Type of Broadcast (☞ pg. 38)
9– Current day/month/year
10– Clock display
11– Channel position number and station name/Aux. indicator (DV, L-1, L-2, F-1, S-1 or S-2)
12– Cassette loaded mark



Power Save Mode

You can reduce the power consumption while the recorder is turned off.

1

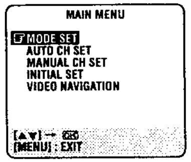
ACCESS MAIN MENU SCREEN

Press **MENU**.

2

ACCESS MODE SET SCREEN

Press △▽ to move the highlight bar (pointer) to "MODE SET", then press **OK** or ▷.

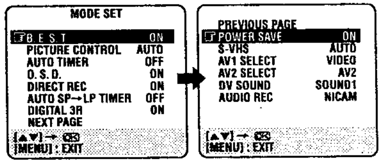


```
          MAIN MENU

☞MODE SET
  AUTO CH SET
  MANUAL CH SET
  INITIAL SET
  VIDEO NAVIGATION

[▲▼] → OK
[MENU] : EXIT
```

3

SELECT POWER SAVE MODE

Press △▽ to move the highlight bar (pointer) to "POWER SAVE", then press **OK** or ▷ to set to "ON".



```
           MODE SET

☞B. E. S. T.                ON
  PICTURE CONTROL         AUTO
  AUTO TIMER               OFF
  O. S. D.                  ON
  DIRECT REC                ON
  AUTO SP→LP TIMER         OFF
  DIGITAL 3R                ON
  NEXT PAGE
[▲▼] → OK
[MENU] : EXIT
```

```
  PREVIOUS PAGE
☞POWER SAVE                 ON
  S-VHS                   AUTO
  AV1 SELECT             VIDEO
  AV2 SELECT               AV2
  DV SOUND              SOUND1
  AUDIO REC              NICAM

[▲▼] → OK
[MENU] : EXIT
```

4

RETURN TO NORMAL SCREEN

Press **MENU**.

NOTES:

- *During Power Save, the display panel will be turned off.*
- *The Just Clock function (☞ pg. 66) does not work while the Power Save mode is engaged.*
- *While the recorder is in the Power Save mode, the picture may be distorted momentarily when you turn on/off the recorder.*
- *Power Save does not work when ...*
  ... the recorder is in the Timer mode.
  ... the recorder's power is turned off after timer-recording (or Instant Timer Recording).
  ... the Auto Satellite Prog Recording mode is engaged (☞ pg. 40).
  ... "AV2 SELECT" is set to "DECODER" or "SAT" (☞ pg. 50).

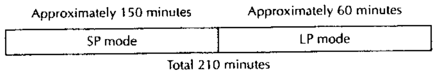
Auto SP→LP Timer

(S-VHS/VHS Mode Only)

If, when timer-recording in SP mode, there is not enough tape to record the entire programme, the recorder automatically switches to LP mode to allow complete recording.

For Example . . .

Recording a programme of 210 minutes in length onto a 180-minute tape



Make sure you set "AUTO SP→LP TIMER" to "ON" at the Mode Set screen before the timer-recording starts.

1

ACCESS MAIN MENU SCREEN

Press **MENU**.

2

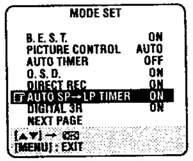
ACCESS MODE SET SCREEN

Press △▽ to move the highlight bar (pointer) to "MODE SET", then press **OK** or ▷.

3

SELECT MODE

Press △▽ to move the highlight bar (pointer) to "AUTO SP→LP TIMER", then press **OK** or ▷ to select "ON".



```
           MODE SET

  B. E. S. T.               ON
  PICTURE CONTROL         AUTO
  AUTO TIMER               OFF
  O. S. D.                  ON
  DIRECT REC                ON
☞AUTO SP→LP TIMER           ON
  DIGITAL 3R                ON
  NEXT PAGE
[▲▼] → OK
[MENU] : EXIT
```

4

RETURN TO NORMAL SCREEN

Press **MENU**.

NOTES:

- *The Auto SP→LP Timer feature is not available during ITR (Instant Timer Recording), and the feature will not work properly with any tapes longer than E-180 or with some tapes of shorter lengths.*
- *If you have programmed the recorder to timer-record 2 or more programmes, the second programme and those thereafter may not fit on the tape if you set "AUTO SP→LP TIMER" to "ON". In this case, make sure the mode is not engaged, then set the tape speed manually during timer programming.*
- *In order to ensure that the recording fits on the tape, this feature may leave a short non-recorded section at the end of the tape.*
- *There may be some picture noise and sound disturbance at the point on the tape where the recorder switches from SP to LP mode.*
- *If you perform timer recording with both PDC and the Auto SP→LP Timer activated, and the programme goes beyond its originally scheduled length, there may be times when the programme cannot be recorded in its entirety.*

Auto Timer

When the Auto Timer is set to ON the timer is automatically engaged when the recorder power is turned off and automatically disengaged when the recorder is powered back on.

1

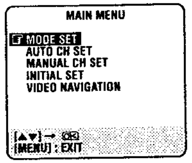
ACCESS MAIN MENU SCREEN

Press **MENU**.

2

ACCESS MODE SET SCREEN

Press △▽ to move the highlight bar (pointer) to "MODE SET", then press **OK** or ▷.

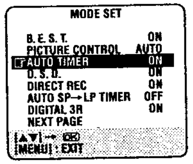


```
          MAIN MENU

☞MODE SET
  AUTO CH SET
  MANUAL CH SET
  INITIAL SET
  VIDEO NAVIGATION

[▲▼] → OK
[MENU] : EXIT
```

3

SELECT MODE

Press △▽ to move the highlight bar (pointer) to "AUTO TIMER", then press **OK** or ▷ to select either "ON" or "OFF".



```
           MODE SET

  B. E. S. T.               ON
  PICTURE CONTROL         AUTO
☞AUTO TIMER                 ON
  O. S. D.                  ON
  DIRECT REC                ON
  AUTO SP→LP TIMER         OFF
  DIGITAL 3R                ON
  NEXT PAGE
[▲▼] → OK
[MENU] : EXIT
```

4

RETURN TO NORMAL SCREEN

Press **MENU**.

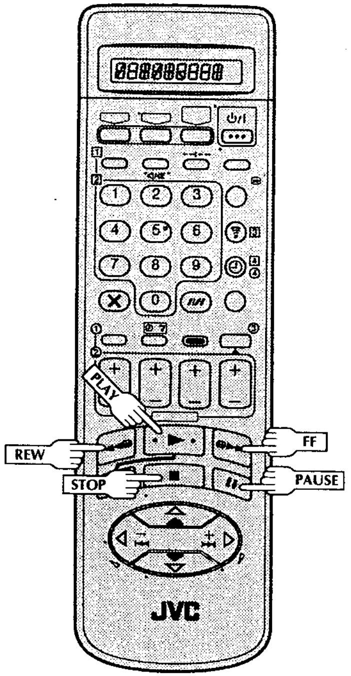
NOTE:

For safety, when Auto timer is set to "OFF", all other recorder functions are disabled while the Timer mode is engaged. To disengage the timer, press ⏲ (or ⏲ ***TIMER****).*

Next Function Memory

The Next Function Memory "tells" the recorder what to do after rewinding. Before continuing, make sure the recorder is in the Stop mode.

a– For Automatic Start Of Playback After Tape Rewind . . .
. . . press **REW**, then press **PLAY** within 2 seconds.
b– For Automatic Power Off After Tape Rewind . . .
. . . press **REW**, then press ⏻/I within 2 seconds.
c– For Automatic Timer Standby After Tape Rewind . . .
. . . press **REW**, then press ⏲ (or ⏲**TIMER**) within 2 seconds.



Repeat Playback

Your video recorder can automatically play back the whole tape 50 times repeatedly.

1

START PLAYBACK

Press **PLAY**.

2

ACTIVATE REPEAT PLAYBACK

Press **PLAY** and hold for over 5 seconds, then release.

- The Play indicator (▷) on the display panel blinks slowly.
- The tape plays 50 times automatically, and then stops.

3

STOP PLAYBACK

Press **STOP** at any time to stop playback.

NOTES:

- *Pressing **PLAY, REW, FF** or **PAUSE** also stops Repeat Playback.*
- *For a cassette recorded in D-VHS mode, Repeat Playback is possible only if the cassette was recorded in STD mode.*

NTSC Playback

Your video recorder is equipped with NTSC circuitry that can play back NTSC tapes.

1

LOAD A CASSETTE

Insert a cassette recorded in NTSC.

2

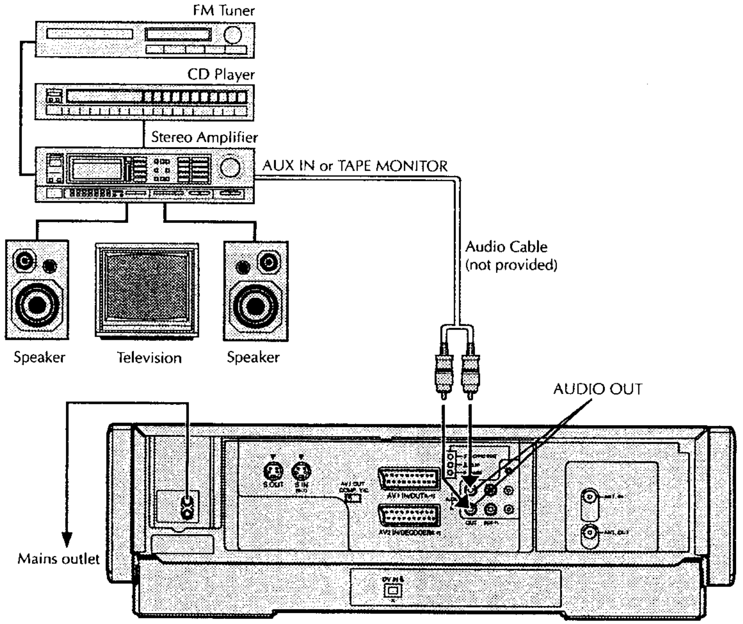
START PLAYBACK

Press **PLAY**.

- "NTSC→PAL" appears on the screen for about 5 seconds.
- Some TVs shrink the picture vertically and place black bars at the top and bottom of the screen. This is not a malfunction on the part of either the video recorder or the TV.
- The picture may roll up and down. This can be corrected using the V-HOLD control found on some TVs. (This cannot be corrected if the TV does not have a V-HOLD control.)
- The counter and tape remaining time readings will be incorrect.
- During search, still, or frame-by-frame playback, the picture will be distorted, and there may be a loss of colour.
- Depending on the type of TV, the top and bottom portions of superimposed displays may be cut off during NTSC playback.

Connection To A Stereo System

These instructions enable you to connect your video recorder to your Hi-Fi stereo system (if you have one) and listen to the soundtrack through the stereo.



Back of Recorder

1

MAKE CONNECTIONS

Connect the AUDIO OUT L and R connectors on your video recorder to the AUX IN or TAPE MONITOR terminals on your stereo system's receiver or amplifier.

NOTES:

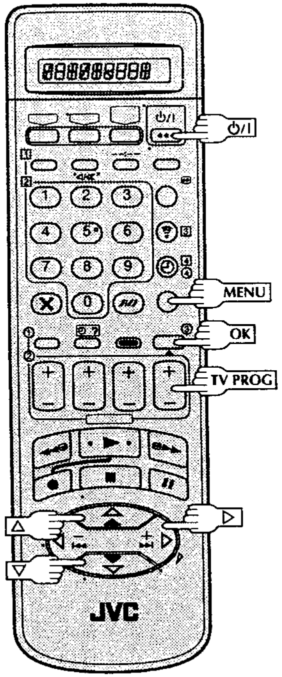
- *When connecting your recorder's audio output connectors to a stereo amplifier, make sure you connect L and R correctly.*
- *If you can receive NICAM TV broadcasts in your area, this recorder can record them independently of the TV set and play them back through the connected stereo system.*
- *When listening to sound through the connected stereo system, turn the TV's volume down completely.*

CAUTIONS:

- This recorder has a dynamic range of more than 80 dB with regards to its Hi-Fi audio capability. It is recommended that you check the maximum level if you are going to listen to the Hi-Fi audio signals through a stereo amplifier. A sudden surge in the input level to the speakers may damage them.
- Some speakers and televisions are specially shielded to prevent television interference. If both are of the non-shielded type, do not place the speakers adjacent to the TV set as this can adversely affect the video playback picture.

Tuner Set

Turn on the TV and select the AV mode.



IMPORTANT

Perform the following steps only if —

— Auto Channel Set has not been set correctly by Auto Set Up function (☞ pg. 8) or Preset Download (☞ pg. 9).

— you have moved to a different area or if a new station starts broadcasting in your area.

Your recorder needs to memorise all necessary stations in preset positions in order to record TV programmes. Auto Channel Set automatically assigns all receivable stations in your area to call them up by using the **TV PROG** buttons without going through any vacant channel.

Auto Channel Set

1 TURN ON THE RECORDER

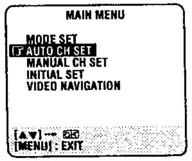
Press ⏻/I.

2 ACCESS MAIN MENU SCREEN

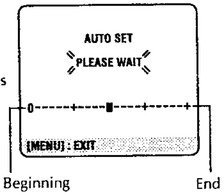
Press **MENU**.

3 PERFORM AUTO CHANNEL SET

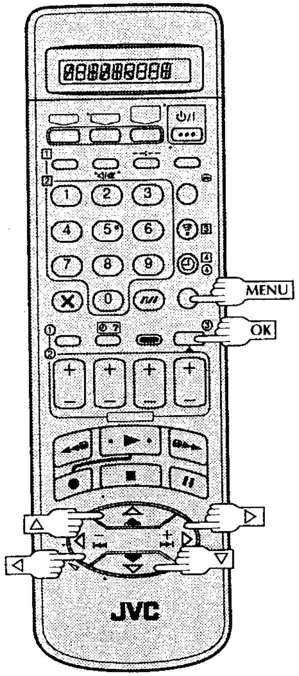
Move the highlight bar (pointer) to "AUTO CH SET" by pressing △▽, then press **OK** or ▷.



- The Auto Set screen appears, and remains on screen while the recorder searches for receivable stations. As Auto Channel Set progresses, the " ▮ " mark on the screen moves from left to right. Wait until the screen as shown in step **4** appears.



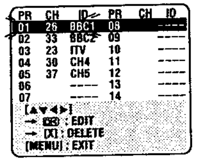
- Auto Channel Set usually takes about 4 – 12 minutes; the duration varies by area.



4 VIEW CONFIRMATION SCREEN

After "SCAN COMPLETED" is displayed on the screen for about 5 seconds, a Confirmation screen looking like the one on the right appears. The stations your recorder located appear on a Confirmation screen — preset positions (PR), channels (CH) and station names (ID – ☞ pg. 63). The blueback screen and the programme currently being broadcast by the station which is blinking appear alternately for 8 seconds each.

To view the next page, use the △▽ ◁▷ button on the remote control.



PR	CH	ID	PR	CH	ID
01	26	BBC1	08		----
02	33	BBC2	09		----
03	23	ITV	10		----
04	30	CH4	11		----
05	37	CH5	12		----
06		----	13		----
07		----	14		----

- The Guide Program numbers will also be set automatically during Auto channel Set.

5 RETURN TO NORMAL SCREEN

Press **MENU**.

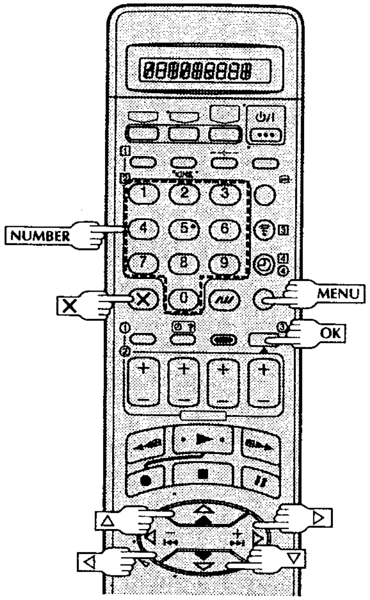
- Using the Confirmation screen, you can skip or add preset positions, enter station names and perform other operations. Refer to pages 60 – 64 for the procedures.
- Depending on reception conditions, the stations may, on occasion, not be stored in order, and the station names may not be stored correctly.

IMPORTANT

- In certain reception conditions, station names may not be stored correctly, and auto Guide Program Number Set may not work properly. If the Guide Program numbers are not set properly, when you timer-record a TV programme using VIDEO Plus+, the recorder will record a TV programme of a different station. When programming the timer using VIDEO Plus+, be sure to check that the preset position corresponding to the broadcasting station you wish to record has been selected (☞ pg. 18, "VIDEO Plus+® Timer Programming").
- Your video recorder memorizes all detected stations even if reception of some of them is poor. In these cases picture quality may be poor. To delete those stations which have an unacceptable picture ☞ "Delete A Channel" on page 61.

NOTES:

- *Fine tuning is performed automatically during Auto Channel Set. If you wish to perform it manually, refer to page 61.*
- *If, for any reason, you perform Auto Channel Set when the aerial cable is not connected properly, "SCAN COMPLETED -NO SIGNAL-" appears on the screen in step **4**. When this happens, make sure of the aerial connection and press **OK**; Auto Channel Set will take place again.*



Storing Channels Manually

To store channels that were not stored during Auto Set Up (☞ pg. 8), Preset Download (☞ pg. 9) or Auto Channel Set (☞ pg. 58).

1

ACCESS MAIN MENU

Press **MENU**.

2

ACCESS CONFIRMATION SCREEN

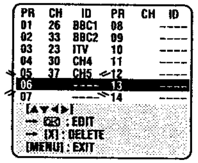
Press △▽ to move the highlight bar (pointer) to "MANUAL CH SET", then press **OK** or ▷. The Confirmation screen appears.

3

SELECT POSITION

Press △▽ ◁▷ until an open position in which you want to store a channel begins blinking, then press **OK**. The Manual Channel Set screen appears.

(Ex.) To store in position 6.



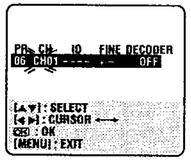
```
PR  CH  ID    PR  CH  ID
01  26  BBC1  08      ----
02  33  BBC2  09      ----
03  23  ITV   10      ----
04  30  CH4   11      ----
05  37  CH5   12      ----
06      ----  13      ----
07      ----  14      ----
[▲▼◀▶]
→ OK : EDIT
→ [X] : DELETE
[MENU] : EXIT
```

The blueback screen and the programme currently being broadcast by the selected channel appear alternately for 8 seconds each.

4

SELECT BAND

Press △▽ to change the band between CH (regular) and CC (cable), then press ▷.



```
PR  CH    ID    FINE  DECODER
06  CH01  ----  +-    OFF
[▲▼] : SELECT
[◀▶] : CURSOR ←→
OK : OK
[MENU] : EXIT
```

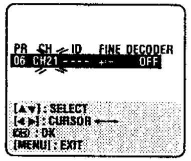
The blueback screen and the programme currently being broadcast by the selected channel appear alternately for 8 seconds each.

5

INPUT CHANNEL

Press the **NUMBER** keys to input the channel number you want to store.

- To input the registered station name (ID – ☞ pg. 63), press ▷ until "– – – –" (ID setting) begins blinking, then press △▽.
- For fine tuning adjustment, press ▷ until "+/–" begins blinking, then press △▽. While tuning, "+" or "–" appears.
- When "AV2 SELECT" is set to "AV2" or "SAT", the "DECODER" setting cannot be changed (☞ pg. 50).



```
PR  CH    ID    FINE  DECODER
06  CH21  ----  +-    OFF
[▲▼] : SELECT
[◀▶] : CURSOR ←→
OK : OK
[MENU] : EXIT
```

The blueback screen and the programme currently being broadcast by the selected channel appear alternately for 8 seconds each.

6

ENTER NEW CHANNEL INFORMATION

Press **OK** and the Confirmation screen appears.

- Repeat steps **3** through **6** as necessary.

7

CLOSE CONFIRMATION SCREEN

Press **MENU**.

- To change positions, see "Change Station Preset Position" (☞ pg. 61).
- If you wish to set station names other than the ones registered in your recorder, ☞ "Set Stations (B)" on pg. 62.

ATTENTION

Guide Program numbers are not set when channels are stored manually. If an attempt is made at timer programming with VIDEO Plus+ in this state, the "GUIDE PROG SET" screen appears; set the Guide Program numbers on this screen. ☞ "ATTENTION – Regarding Guide Program Number Set" on pg. 19.
Or perform "Guide Program Number Set" (☞ pg. 65).

Delete A Channel

Perform steps **1** and **2** of "Storing Channels Manually" on page 60 to access the Confirmation screen before continuing.

1

SELECT ITEM

Press △▽ ◁▷ until the item you want to delete begins blinking.

2

DELETE CHANNEL

Press X.

- The item directly beneath the cancelled one moves up one line.
- Repeat steps **1** and **2** as necessary.

3

CLOSE CONFIRMATION SCREEN

Press **MENU**.

Change Station Preset Position

Perform steps **1** and **2** of "Storing Channels Manually" on page 60 to access the Confirmation screen before continuing.

1

SELECT ITEM

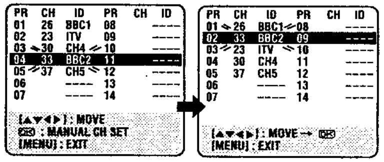
Press △▽ ◁▷ until the item you want to move begins blinking. Then press **OK** and the station name (ID) and its channel (CH) number begin blinking.

2

SELECT NEW POSITION

Press △▽ ◁▷ to move the station to the new preset position, then press **OK**.

Example: If you moved the station in position 4 to position 2, the stations originally in positions 2 and 3 each move down one space.



```
PR  CH  ID    PR  CH  ID
01  26  BBC1  08      ----
02  23  ITV   09      ----
03  30  CH4   10      ----
04  33  BBC2  11      ----
05  37  CH5   12      ----
06      ----  13      ----
07      ----  14      ----
[▲▼◀▶] : MOVE
OK : MANUAL CH SET
[MENU] : EXIT
```

```
PR  CH  ID    PR  CH  ID
01  26  BBC1  08      ----
02  33  BBC2  09      ----
03  23  ITV   10      ----
04  30  CH4   11      ----
05  37  CH5   12      ----
06      ----  13      ----
07      ----  14      ----
[▲▼◀▶] : MOVE → OK
[MENU] : EXIT
```

- Repeat steps **1** and **2** as necessary.

3

CLOSE CONFIRMATION SCREEN

Press **MENU**.

Fine-Tuning Channels Already Stored

Perform steps **1** and **2** of "Storing Channels Manually" on page 60 to access the Confirmation screen before continuing.

1

SELECT CHANNEL TO FINE-TUNE

Press △▽ ◁▷ until the channel you want to tune begins blinking.

2

ACCESS MANUAL CHANNEL SET SCREEN

Press **OK** twice. The Manual Channel Set screen appears.

3

PERFORM TUNING

Press ▷ until "+/–" begins blinking, then press △▽ until the picture is clearest. Then press **OK**.

- The Confirmation screen appears.
- Repeat steps **1** through **3** as necessary.

4

CLOSE CONFIRMATION SCREEN

Press **MENU**.

ATTENTION

If channel positions are changed or deleted, the Guide Program numbers that have been set are reset.

- Example 1: If a channel is deleted, all the Guide Program numbers are reset.
- Example 2: If a channel is changed from position 4 to position 2, the Guide Program numbers above position 4 are reset.
- Example 3: If a channel is changed from position 4 to position 6, the Guide Program numbers above position 6 are reset.

* In Examples 2 and 3, if the channel is moved to position 10 before **OK** is pressed, the Guide Program numbers above position 10 are reset.
If an attempt is made at timer programming with VIDEO Plus+ in this state, the "GUIDE PROG SET" screen appears; set the Guide Program numbers on this screen. ☞ "ATTENTION – Regarding Guide Program Number Set" on pg. 19.
Or perform "Guide Program Number Set" (☞ pg. 65).

When Receiving A Scrambled Broadcast

1 SELECT DECODER MODE

Set "AV2 SELECT" to "DECODER" (☞ pg. 50).

2 ACCESS CONFIRMATION SCREEN

Perform steps **1** and **2** of "Storing Channels Manually" on page 60.

3 SELECT POSITION

Press △▽ ◁▷ to select the channel position broadcasting scrambled programmes, then press **OK** twice.

4 CHANGE DECODER SETTING

Press ▷ until "OFF" (decoder setting) begins blinking, and set it to "ON" by pressing △▽.

5 RETURN TO CONFIRMATION SCREEN

Press **OK**.

- Repeat steps **3** through **5** as necessary.

6 CLOSE CONFIRMATION SCREEN

Press **MENU**.

NOTE:

Scrambled programmes are not currently broadcasted in the U.K.

Set Stations (A)

Set station names that are registered in your recorder.

Perform steps **1** and **2** of "Storing Channels Manually" on page 60 to access the Confirmation screen before continuing.

1 SELECT ITEM

Press △▽ ◁▷ until the item you want begins blinking.

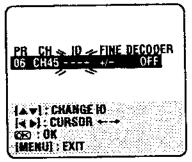
2 ACCESS MANUAL CHANNEL SET SCREEN

Press **OK** twice.

3 SELECT NEW STATION

Press ▷ until the station name (ID) begins blinking, then press △▽ until the new station's name (ID) you want to store begins blinking.

Registered station names (☞ pg. 63) appear as you press △▽.



PR CH ID FINE DECODER
06 CH45 ---- +/- OFF

[▲▼] : CHANGE ID
[◀▶] : CURSOR ←→
OK : OK
[MENU] : EXIT

4 SWITCH STATIONS

Press **OK**.

- The Confirmation screen appears.
- Repeat steps **1** through **4** as necessary.

5 CLOSE CONFIRMATION SCREEN

Press **MENU**.

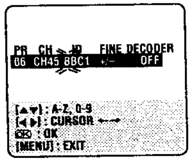
Set Stations (B)

Set station names other than the ones registered in your recorder.

Perform steps **1** and **2** of "Storing Channels Manually" on page 60 to access the Confirmation screen and then perform steps **1** and **2** of "Set Stations (A)" on the left before continuing.

1 SELECT STATION NAME CHARACTER

Press ▷ until the first letter of the station name begins blinking.



PR CH ID FINE DECODER
06 CH45 BBC1 +/- OFF

[▲▼] : A-Z, 0-9
[◀▶] : CURSOR ←→
OK : OK
[MENU] : EXIT

2 ENTER NEW CHARACTER

Press △▽ to cycle through the characters (A–Z, 0–9, –, ✱, +, ␣ (space)) and stop when the desired character is indicated, then press ▷ to enter. Enter the remaining characters the same way (maximum of 4).

After entering all characters, press **OK**.

- The Confirmation screen appears.
- If you make a mistake, press ◁ until the incorrect character begins blinking. Then enter the correct character by pressing △▽.

3 CLOSE CONFIRMATION SCREEN

Press **MENU**.

NOTE:

The characters available for the station name (ID) are A–Z, 0–9, –, ✱, +, ␣ (space) (maximum of 4).

TV Station And ID List

STATION NAME	ID*
Anglia TV	ANGL
ARD	ARD
ARTE	ARTE
BBC Group	BBC
BBC1	BBC1
BBC2	BBC2
Berlin 1	BLN1
Berlin 2	BLN2
Border TV	BORD
Bayern1	BR1
Bayern3	BR3
BRT1	BRT1
BRT2	BRT2
Children Ch	CHLD
Canal +	CH+
CNN	CNN
Channel TV	CHNL
Central TV	CNTR
Channel 4	CH 4
Channel 5	CH 5
DRS	DRS
DR TV	DRTV
DSF	DSF
Euronews	EURN
Euronews	EURO
Eurosports	EURS
France1	FR1
France2	FR2
France3	FR3
Granada TV	GRNA
Grampian TV	GRMP
Hessen1	HR1
Hessen3	HR3
HRT	HRT
HTV	HTV
ITV Network	ITV
Kabelkanal	KABL
London	LNDN
MDR	MDR
MTV	MTV
Nord3	N3
NDR1	NDR1
NDR3	NDR3
NED1	NED1
NED2	NED2
NED3	NED3
Network 2	NET2
NRK	NRK
N-TV	N-TV
Offener Kanal	OKAN
ORF1	ORF1
ORF2	ORF2
ORF3	ORF3
OWL 3	OWL3
Premiere	PRMI
PR07	PR07
RAI1	RAI1
RAI2	RAI2
RAI3	RAI3
RB1	RB1
RB3	RB3
Rikisutvarpid-S	RKPS
RTBF 1	RTB1
RTBF 2	RTB2
RTE 1	RTE1
RTL	RTL
RTL 2	RTL2
RTP	RTP
SAT	SAT
SAT 1	SAT1
Scottish TV	SCOT
SC4	SC4
SDR	SDR
SDR1	SDR1
SFB1	SFB1
SFB3	SFB3
SKY	SKY
Sky One	SKY1
Sky Net	SKYN
Sport	SPRT
SR 1	SR1
Super RTL	SRTL
STV Test	STVT
STV 1	STV1
STV 2	STV2
Suedwest3	SWR
SWF 1	SWF1
Schweiz4	SWZ4
TYNE TEES	TEES
Text	TEXT
TF1	TF1
TNT int	TNT
TRT int	TRT
TSI	TSI
TSR	TSR
TSW	TSW
TVE	TVE
TV Polonia	TVPA
TVP 1	TVP1
TVP 2	TVP2
TVS	TVS
TV2	TV2
TV5	TV5
Tele Zurich	TZUR
Ulster TV	ULST
Veronica	VERN
VIVA	VIVA
VIVA2	VIV2
VOX	VOX
VTM	VTM
VT4	VT4
West1	WDR1
West3	WDR3
YLE 1	YLE1
YLE 2	YLE2
Yorkshire TV	YORK
ZDF	ZDF
Zurich 1	ZUR1
3SAT	3SAT

* The "ID" abbreviation is what is shown on-screen in lieu of the station name. The "ID" abbreviation is listed in the Confirmation screen and is displayed on the TV screen each time the recorder is tuned to a different station.

TV Station Channel Number Guide

For customers in the U.K.

Only the main stations are listed. There are in addition many relay stations, and full lists are available from the BBC and ITV.

	BBC1	BBC2	ITV	CH4	CH5
London & South-East					
Bluebell Hill	40	46	43	65	—
Crystal Palace	26	33	23	30	37
Dover	50	56	66	53	—
Heathfield	49	52	64	67	—
Oxford	57	63	60	53	49
South-West					
Beacon Hill	57	63	60	53	—
Caradon Hill	22	28	25	32	—
Huntshaw Cross	55	62	59	65	67
Redruth	51	44	41	47	37
Stockland Hill	33	26	23	29	—
Channel Islands					
Fremont Point	51	44	41	47	—
South					
Hannington	39	45	42	66	35
Midhurst	61	55	58	68	—
Rowridge	31	24	27	21	—
West					
Mendip	58	64	61	54	37
East					
Sandy Heath	31	27	24	21	39
Sudbury	51	44	41	47	35
Tacolneston	62	55	59	65	52
Midlands					
Ridge Hill	22	28	25	32	35
Sutton Coldfield	46	40	43	50	37
The Wrekin	26	33	23	29	35
Waltham	58	64	61	54	35
North					
Belmont	22	28	25	32	56
Emley Moor	44	51	47	41	37

	BBC1	BBC2	ITV	CH4	CH5
North-West					
Caldbeck	30	34	28	32	56
Winter Hill	55	62	59	65	48
North-East					
Bilsdale West Moor	33	26	29	23	35
Chatton	39	45	49	42	—
Pontop Pike	58	64	61	54	68
Scotland					
Angus	57	63	60	53	—
Black Hill	40	46	43	50	37
Sandale	22	—	—	—	—
Caldbeck	—	34	28	32	56
Creigkelly	31	27	24	21	48
Darvel	33	26	23	29	35
Durris	22	28	25	32	67
Eitshal	33	26	23	29	—
Keelylang Hill	40	46	43	50	—
Knock More	33	26	23	29	—
Rosemarkie	39	45	49	42	67
Rumster Forest	31	27	24	21	—
Selkirk	55	62	59	65	52
Wales					
Blaenplwyf	31	27	24	21	56
Carmel	57	63	60	53	—
Llanddona	57	63	60	53	—
Moel-y-Parc	52	45	49	42	—
Presely	46	40	43	50	37
Wenvoe	44	51	41	47	—
Northern Ireland					
Brougher Mountain	22	28	25	32	—
Divis	31	27	24	21	37
Limavady	55	62	59	65	—

VIDEO Plus+® Setup

IMPORTANT

Normally, Auto Set Up (☞ pg. 8), Preset Download (☞ pg. 9) or Auto Channel Set (☞ pg. 58) sets the Guide Program Numbers automatically. You need to set the Guide Program Numbers manually only in the following cases.

- *When timer-programming with the VIDEO Plus+ system, the preset position, where the station you wish to record is received on your recorder, is not selected or when you add a channel after Auto Set Up or Auto Channel Set has taken place.*

— Set the Guide Program Number for that station manually.

- *When you delete a channel or change preset positions manually after Auto Set Up or Auto Channel Set has taken place.*

— Set the Guide Program Numbers for all the receivable stations manually.

- *When you wish to timer-record a satellite programme with the VIDEO Plus+ system.*

— Set the Guide Program Numbers for all satellite broadcasts received on your satellite receiver.

Turn on the TV and select the AV mode.

Guide Program Number Set

1

ACCESS MAIN MENU SCREEN

Press **MENU**.

2

ACCESS INITIAL SET SCREEN

Press ∆∇ to move the highlight bar (pointer) to "INITIAL SET", then press **OK** or ▷.

3

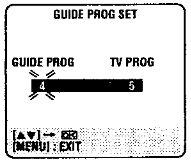
ACCESS GUIDE PROG SET SCREEN

Press ∆∇ to move the highlight bar (pointer) to "GUIDE PROG SET", then press **OK** or ▷.

4

ENTER GUIDE PROG NUMBER

Press ∆∇ or **NUMBER** keys to enter the Guide Program number for the desired station as shown in the TV listings. Then press **OK** or ▷.

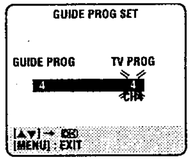


(Ex.) When inputting the Guide Program number 4 for CH4.

5

ENTER RECEIVING PRESET POSITION NUMBER

Press ∆∇ or **NUMBER** keys to input the number of the recorder's preset position on which the Guide Program number's broadcast is received. Then press **OK** or ▷.



(Ex.) If CH4 is received on preset position 4.

- If the satellite broadcast is received on your recorder's auxiliary channel "L-1" or "L-2", select "L-1" or "L-2" for the channel position, depending on the connection to the satellite receiver (☞ pg. 40).
- Repeat steps **4** and **5** as necessary.

6

RETURN TO NORMAL SCREEN

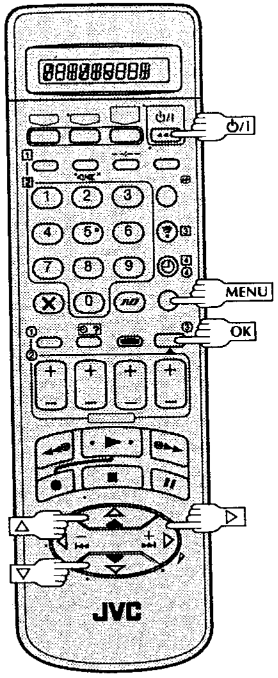
Press **MENU**.

Guide Program Number

"Guide Program (GUIDE PROG) number" refers to the assigned TV station numbers, according to broadcast area, for the VIDEO Plus+ timer recording. The Guide Program numbers can be found in most TV listings.

Clock Set

Turn on the TV and select the AV mode.



Just Clock
The Just Clock function provides accurate time keeping through automatic adjustments at regular intervals, by reading data from a PDC signal.
The Just Clock option can be set "ON" or "OFF" at the Clock Set screen (the default setting is "ON"). Press **OK** until the Just Clock setting begins blinking, then press △▽ to change the setting.
IMPORTANT: If you turn the Just Clock function off, the accuracy of your recorder's built-in clock may be impaired, which could adversely affect timer recording.

IMPORTANT
If you performed Auto Set Up (☞ pg. 8), Preset Download (☞ pg. 9) or Auto Channel Set (☞ pg. 58), without ever having set the clock previously, the recorder's built-in clock is also set automatically.
Perform the following steps only if —
— Auto Clock Set has not been performed correctly by Auto Set Up, Preset Download or Auto Channel Set.
or
— the recorder's memory backup has expired.
or
— you want to change Just Clock setting (☞ "Just Clock" in the left column).

1 TURN THE RECORDER ON

Press ⏻/I.

2 ACCESS MAIN MENU SCREEN

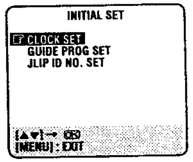
Press **MENU**.

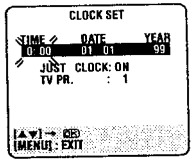
3 ACCESS INITIAL SET SCREEN

Move the highlight bar (pointer) to "INITIAL SET" by pressing △▽, then press **OK** or ▷.

4 ACCESS CLOCK SET SCREEN

Move the highlight bar (pointer) to "CLOCK SET" by pressing △▽, then press **OK** or ▷. The Clock Set screen appears.

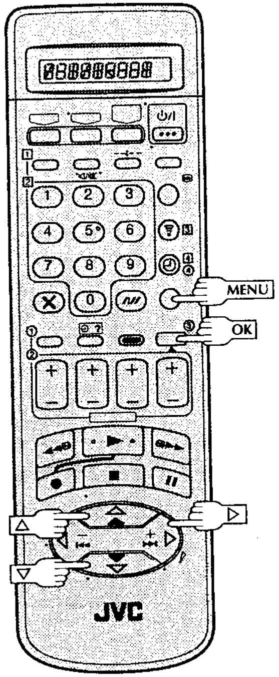

INITIAL SET
☞ CLOCK SET
GUIDE PROG SET
JLIP ID NO. SET
[▲▼] → OK
[MENU] : EXIT


CLOCK SET
TIME DATE YEAR
0:00 01 01 99
JUST CLOCK: ON
TV PR. : 1
[▲▼] → OK
[MENU] : EXIT

5 SET DATE AND TIME

Press △▽ to set the time, then press **OK** or ▷. The "date" display begins blinking. Repeat the same procedure to set the date and year.

- When you set the time, press and hold △▽ to change the time by 30 minutes.
- When you set the date, press and hold △▽ to change the date by 15 days.



6 SET JUST CLOCK

The default setting is "ON". Set as desired by pressing △▽, then press **OK** or ▷.

- For the Just clock function, ☞ "Just Clock" on page 66.
- If you set to "OFF", you can disregard the next step as you won't be able to receive regular clock adjustments.

7 SET CLOCK DATA SOURCE PRESET

The recorder is preset to receive clock setting and adjustment data from preset position 1. Press △▽ to set the preset position to the number representing the station transmitting clock setting data (BBC1, BBC2, etc.), then press **OK** or ▷.

8 START CLOCK OPERATION

Press **MENU**.

NOTES:

- *Just Clock (when set to "ON") adjusts the recorder's built-in clock every hour, except for 23:00, 0:00, 1:00 and 2:00.*
- *Just Clock is not effective when . . .*
  - *the recorder's power is on.*
  - *the recorder is in the Timer mode.*
  - *a difference of more than 3 minutes exists between the built-in clock's time and the actual time.*
  - *the recorder is in the Auto Satellite Prog Rec mode (☞ pg. 40).*
- *If Just Clock is set to "ON", the recorder's clock is automatically adjusted at the start/end of Summer Time.*
- *Just Clock may not function properly in poor reception conditions.*

Questions And Answers

PLAYBACK

Q. What happens if the end of the tape is reached during playback or search?
A. The tape is automatically rewound to the beginning.

. . . .

Q. Can the video recorder indefinitely remain in the still mode?
A. No. It stops automatically after 5 minutes to protect the heads.

. . . .

Q. When returning from multi-speed search to normal playback, the picture is disturbed. Should I be concerned about this?
A. No, it is normal.

. . . .

Q. Sometimes, during Index Search, the video recorder can't find the programme I want to see. Why not?
A. There may be index codes too close together.

. . . .

RECORDING

Q. When I pause and then resume a recording, the end of the recording before the pause is overlapped by the beginning of the continuation of recording. Why does this happen?
A. This is normal. It reduces distortion at the pause and resume points.

. . . .

Q. Can the video recorder indefinitely remain in the Record-Pause mode?
A. No. The video recorder shuts off automatically after 5 minutes to protect the heads.

. . . .

Q. What happens if the tape runs out during recording?
A. The video recorder automatically rewinds it to the beginning or, if Timer Recording, the cassette is ejected.

. . . .

TIMER RECORDING

Q. "◌" and "◷" remain lit on the display panel. Is there a problem?
A. No. This is a normal condition for a timer recording in progress.

. . . .

Q. Can I programme the timer while I'm watching a tape or a TV broadcast?
A. You won't see the picture as it is replaced by the on-screen menu, but the audio from the program or tape you're viewing can be heard.

. . . .

Q. Is it possible to timer-record a TV programme broadcast in 2000?
A. Yes, it is possible.

. . . .

ATTENTION
This recorder contains microcomputers. External electronic noise or interference could cause malfunctioning. In such cases, switch the recorder off and unplug the mains power cord. Then plug it in again and turn the recorder on. Take out the cassette. After checking the cassette, operate the unit as usual.

Troubleshooting

Before requesting service for a problem, use this chart to see if you can correct the trouble yourself. Small problems are often easily corrected, and this can save you the trouble of sending your video recorder off for repair.

POWER

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
1. No power is applied to the recorder.	• The mains power cord is disconnected.	Connect the mains power cord.
2. The clock is functioning properly, but the recorder cannot be powered.	• "◷" is displayed on the display panel with Auto Timer set to "OFF".	Press the ◷ button to turn the "◷" indicator off.
3. The remote control won't function.	• The batteries are discharged.	Replace the dead batteries with new ones.

TAPE TRANSPORT

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
1. The tape does not run during recording.	• "▦" is displayed on the display panel.	Press **PLAY** to turn the "▦" indicator off.
2. The tape will not rewind or fast-forward.	• The tape is already fully rewound or fast-forwarded.	Check the cassette.

PLAYBACK

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
1. The playback picture does not appear while the tape is running.	• The TV receiver is not set to the AV mode.	Set the TV to its AV mode.
2. Noise appears during visual search.	• This is normal.	
3. Noise appears during normal playback.	• The automatic tracking mode is engaged.	Try manual tracking (☞ pg. 36).
4. The playback picture is blurred or interrupted while TV broadcasts are clear.	• The video heads may be dirty.	Consult your JVC dealer.
5. Breaks are noticeable in Hi-Fi soundtrack.	• Automatic tracking is engaged.	Engage and adjust tracking manually (☞ pg. 36), or set the soundtrack to "NORM" (☞ pg. 39).

RECORDING

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
1. Recording cannot be started.	• There is no cassette loaded, or the cassette loaded has had its Record Safety tab removed.	Insert a cassette, or using adhesive tape, reseal the slot where the tab was removed.
2. TV broadcasts cannot be recorded.	• "I-1", "L-1", "L-2", "F-1", "S-1" or "S-2" has been selected as the input mode.	Set to the desired preset.
3. Tape-to-tape editing is not possible.	• The source (another video recorder, camcorder) has not been properly connected. • All necessary power switches have not been turned on. • The input mode is not correct.	Confirm that the source is properly connected. Confirm that all units' power switches are turned on. Set the input mode to "I-1", "L-1", "L-2", "F-1", "S-1" or "S-2".
4. Camcorder recording is not possible.	• The camcorder has not been properly connected. • The input mode is not correct.	Confirm that the camcorder is properly connected. Set the input mode to "I-1", "L-1", "L-2", "F-1", "S-1" or "S-2".

TIMER RECORDING

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
1. Timer recording won't work.	• The clock and/or the timer have been set incorrectly. • The timer is not engaged.	Re-perform the clock and/or timer settings. Press ◷ and confirm that "◷" is displayed on the display panel.
2. Timer programming is not possible.	• Timer recording is in progress.	Timer programming can't be performed while a timer recording is in progress. Wait until it finishes.
3. "◷" and "📼" on the display panel won't stop blinking.	• The timer is engaged but there's no cassette loaded.	Load a cassette with the Record Safety tab intact, or cover the hole using adhesive tape.
4. The cassette is automatically ejected, and "◷" and "📼" on the display panel won't stop blinking.	• The loaded cassette has had its Record Safety tab removed.	Remove the cassette and cover the hole with adhesive tape, or insert a cassette with the Record Safety tab intact.
5. "◷" blinks for 10 seconds and the Timer mode is disengaged.	• ◷ has been pressed when there are no programs in memory, or the timer record information has been programmed incorrectly.	Check the programmed data and re-programme as necessary, then press ◷ again.
6. The cassette is automatically ejected, the power shuts off and "◷" and "📼" won't stop blinking.	• The end of the tape was reached during timer recording.	The programme may not have been recorded in its entirety. Next time make sure you have enough time on the tape to record the entire programme.
7. The VIDEO Plus+ system does not timer-record properly.	• The recorder's preset positions have been set incorrectly.	Refer to "Guide Program Number Set" and re-perform the procedure (☞ pg. 65).

OTHER PROBLEMS

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
1. Whistling or howling is heard from the TV during camcorder recording.	• The camcorder's microphone is too close to the TV. • The TV's volume is too high.	Position the camcorder so its microphone is away from the TV. Turn the TV's volume down.
2. When scanning channels, some of them are skipped over.	• Those channels have been designated to be skipped.	If you need the skipped channels, restore them (☞ pg. 60).
3. The preset cannot be changed.	• Recording is in progress.	Press **PAUSE** to pause the recording, change presets, then press **PLAY** to resume recording.
4. Channel settings that were made manually seem to have changed or disappeared.	• After the manual settings were made, Auto Channel Set was performed.	Perform manual setting again.
5. No channels are stored in the recorder's memory.	• The TV aerial cable was not connected to the recorder when Auto Set Up was performed.	Connect the TV aerial cable to the recorder properly and turn off the recorder power once, then turn the recorder power back on again. The recorder will try Auto Set Up again (☞ pg. 8).
6. The remote control won't operate the TV or satellite receiver.	• The remote control brand setting is incorrect.	Re-set the remote control to the correct brand (☞ pg. 43, 44).

Error Code

Some error codes may appear on the TV screen when operating the recorder. Refer to the chart below for the solution.

ERROR CODE	SYMPTOM	SOLUTION
102	• When a signal in which only the analog information is copy protected has been input for the dubbing in D-VHS mode.	It is not possible to record a digitally copy protected signal.
103	• When a signal which is digitally copy protected has been input for dubbing in D-VHS mode.	It is not possible to record a digitally copy protected signal.
104	• When a signal which cannot be digitally converted by the recorder has been recorded.	Sometimes a programme can be recorded but not played back because the signal system is not supported by the recorder. Switch to analog input such as "L-1" to record.
105	• When making an S-VHS/VHS recording of a signal from DV IN connector (i.Link).	The recorder's DV IN connector (i.Link) is especially for D-VHS recording. The digital signal is not converted to analog and then recorded. Switch to analog input such as "L-1" to record.
200	• When a signal which cannot be digitally converted by the recorder has been input and played back.	Playback is impossible because a signal system not supported by the recorder has been input.
201	• When normal playback is impossible such as with a mosaic (block-shaped noise).	The recorder is making adjustments in order to display normal picture. Please wait.
205	• When an attempt is made to play back a D-VHS recorded tape that has been found to be invalid.	This tape cannot be played back by this recorder.
300	• When a signal which cannot be digitally converted by the recorder has been input.	Nothing can be seen or heard because the signal system is not supported by the recorder.

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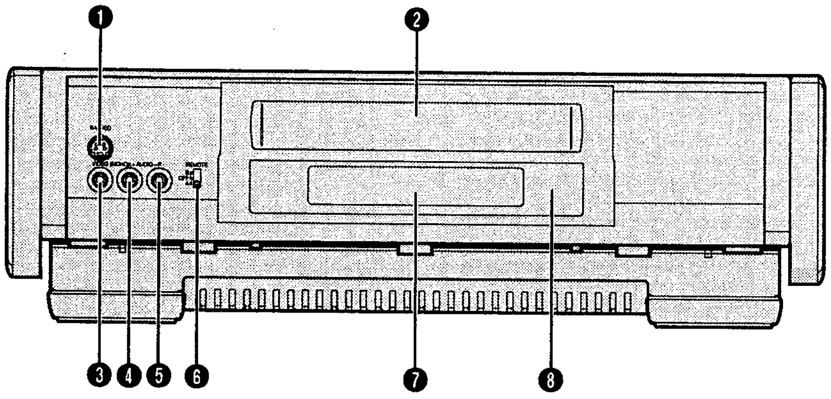
FRONT VIEW



① **S-VIDEO Input Connector** enables S-VIDEO connection to camcorder or second recorder; input recordable when "S-2" selected. ☞ pg. 46

② **Cassette Loading Slot** is where cassette is inserted; door closes, "cassette loaded" indicator lights up on front display panel.

③ **VIDEO Input Connector** enables easy connection of video output from another recorder or camcorder for editing; input recordable when "F-1" selected. ☞ pg. 46

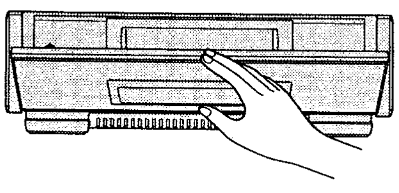
④ **AUDIO Input Connector [L]** enables easy connection of audio output (mono) from another recorder, camcorder or other source for editing. ☞ pg. 46

⑤ **AUDIO Input Connector [R]** enables easy connection of audio output (Hi-Fi) from another recorder, camcorder or other source for editing. ☞ pg. 46

⑥ **Remote Control Code Switch** enables setting of recorder to respond to A- or B-code control signals. ☞ pg. 42

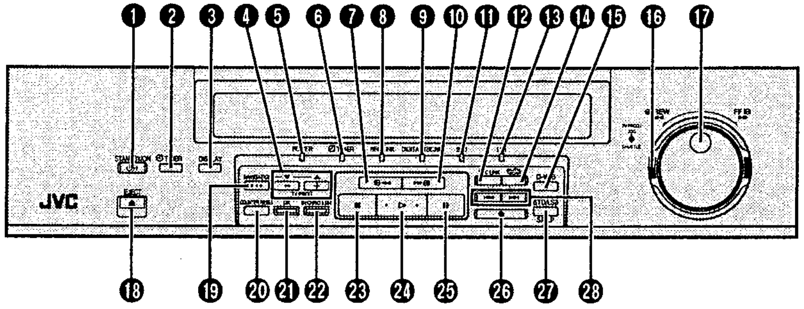
⑦ **Display Panel** provides clear view of various displays and indicators. ☞ pg. 76

⑧ **Infrared Beam Receiving Window** is where remote control should be aimed when in use.



Pull the front panel to access covered buttons/connectors.

INSIDE VIEW OF FRONT PANEL



① **STANDBY/ON ⏻/I Button** turns recorder on/off (loading a cassette also turns power on).

② **⊙TIMER Button** engages timer-standby mode. ☞ pg. 19, 21

③ **DISPLAY Button** switches display between clock time, tape remaining time, counter readings and preset position*. ☞ pg. 17

** Preset position is not displayed during playback.*

④ **TV PROG +/– Buttons** select a preset position. ☞ pg. 14

⑤ **POWER Indicator** lights when the recorder is turned on.

⑥ **⊙TIMER Indicator** lights when **⊙TIMER** (or ⊙ on remote control) has been pressed to engage Timer mode. ☞ pg. 18, 19

⑦ **Rewind [REW] Button** rewinds tape ; initiates high-speed reverse search. ☞ pg. 12, 13

⑧ **REC LINK Indicator** lights up during Auto Satellite Prog Rec mode. ☞ pg. 41

⑨ **DIGITAL TBC/NR Indicator** lights up during Digital TBC/NR. ☞ pg. 36

⑩ **Fast Forward [FF] Button** fast-forwards tape; initiates high-speed forward search. ☞ pg. 12, 13

⑪ **STD Indicator** lights when the selected tape speed is "STD". ☞ pg. 14

⑫ **REC LINK Button** enables/disables the Auto Satellite Prog Rec mode. ☞ pg. 41

⑬ **LS3 Indicator** lights when the selected tape speed is "LS3". ☞ pg. 14

⑭ **DIGITAL TBC/NR Button** enables/disables Digital TBC/NR. ☞ pg. 36

⑮ **D-VHS Button** enables/disables the D-VHS mode. ☞ pg. 14

⑯ **SHUTTLE Ring** performs forward and reverse slow-motion and search during Still or Play mode. ☞ pg. 13

⑰ **TV PROG Dial** scans to desired preset position during Stop mode. ☞ pg. 14
JOG Dial plays back frame by frame during Still or Play mode. ☞ pg. 13

⑱ **EJECT Button** ejects tape during Stop mode. ☞ pg. 12

⑲ **NAVIGATION Button** accesses title screen for tape navigation. ☞ pg. 24

⑳ **COUNTER RESET Button** resets counter to 0:00:00. ☞ pg. 17

㉑ **OK Button** enters selections made in on-screen menus. ☞ pg. 33

㉒ **SYNCHRO EDIT Button** enables Synchro Editing mode. ☞ pg. 51

㉓ **STOP Button** stops tape. ☞ pg. 12

㉔ **PLAY Button** plays back tape ☞ pg. 12; cancels Pause, Still, Slow, Search modes. ☞ pg. 13

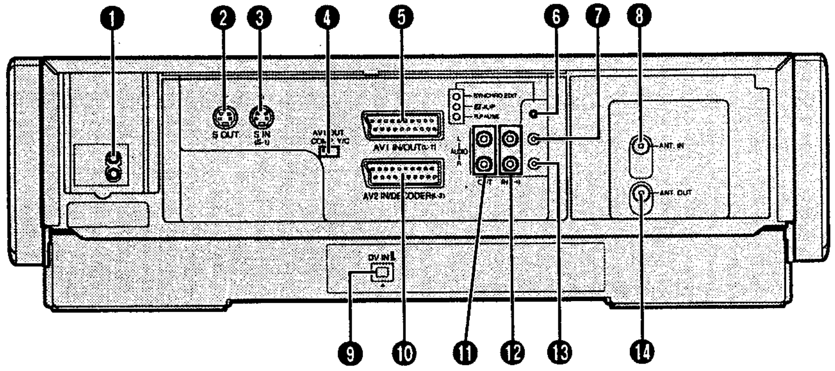
㉕ **PAUSE Button** stops tape temporarily during recording ☞ pg. 14; stops tape temporarily during playback; plays back frame by frame with each additional press. ☞ pg. 13

㉖ **RECORD Button** starts regular recording (press once), Instant Timer Recording (press twice); sets duration of ITR. ☞ pg. 14 – 16

㉗ **STD/LS3 Button** selects tape speed (in the D-VHS mode). ☞ pg. 14
SP/LP Button selects tape speed (in the S-VHS or VHS mode). ☞ pg. 14

㉘ << ⏮ and ⏭ >> Buttons — same as ◁ ▷ Button on remote control ☞ pg. 13, 37

REAR VIEW



❶ **Mains Power Inlet** enables connection to a mains outlet using the provided Mains Power Cord. ☞ pg. 6, 7

❷ **S OUT Connector** enables S-VIDEO connection to TV or second recorder. ☞ pg. 7, 48

❸ **S IN Connector** enables S-VIDEO connection to camcorder or second recorder; input recordable when "S-1" selected. ☞ pg. 49

❹ **AV1 OUT Switch** selects the type of signal output via the 21-pin AV1 IN/OUT connector. ☞ pg. 6, 40

❺ **AV1 IN/OUT Connector** enables AV connection to TV or second recorder; input recordable when "L-1" selected. ☞ pg. 6, 48

❻ **SYNCHRO EDIT Connector** enables connection to camcoder equipped with LANC connector, for easy editing. ☞ pg. 51

❼ **J Terminal [JLIP (Joint Level Interface Protocol) Connector]** enables connection of a personal computer or similar device to allow computerized control of the recorder during editing and certain other operations. ☞ pg. 52

❽ **ANT. IN Connector** enables connection of aerial. ☞ pg. 6, 7

❾ **DV IN Connector (i.Link*)** enables connection to digital video devices; input recordable when "I-1" selected. ☞ pg. 47

** i.Link refers to the IEEE1394-1995 industry specification and extensions thereof. The i logo is used for products compliant with the i.Link standard.*

❿ **AV2 IN/DECODER Connector** enables connection of satellite receiver, decoder or second recorder; input recordable when "L-2" selected. ☞ pg. 40, 48

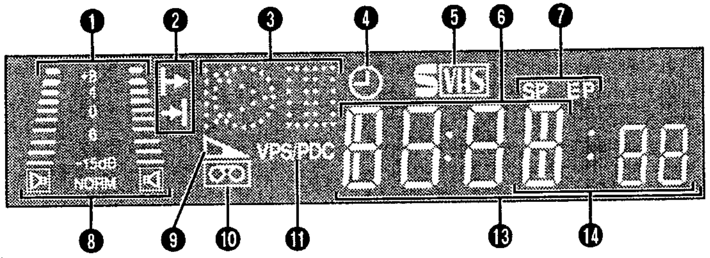
⓫ **AUDIO OUT (L/R) Connectors** enable connection of audio cassette recorder, TV or second video recorder for dubbing. ☞ pg. 57

⓬ **AUDIO IN (L/R) Connectors** enable easy connection of audio output [mono (L) or Hi-Fi (R)] from another recorder, camcorder or other source for editing. ☞ pg. 46

⓭ **Remote PAUSE Connector** enables connection to JVC camcorder equipped with Master Edit Control, for easy editing. ☞ pg. 46

⓮ **ANT. OUT Connector** enables connection to aerial terminal of TV receiver. ☞ pg. 6, 7

DISPLAY PANEL



❶ **B.E.S.T. Picture System Display** lights from bottom to top while B.E.S.T. is active. ☞ pg. 34
Audio Level Indicator displays audio input and output levels.

❷ **Programme Time Indicators** show the programme start time (|▶) and the programme stop time (→|) for timer-recording. ☞ pg. 20

❸ **Symbolic Mode Indicators**

PLAY: FF/REW VARIABLE SEARCH:	▷	STILL: SLOW:	▷▦
		RECORD:	○
		RECORD PAUSE:	○▦

❹ **"Timer" Indicator** lights when ◷**TIMER** (or ◷ on remote control) has been pressed to engage Timer mode. ☞ pg. 19, 21

❺ **S-VHS Indicator** lights when a cassette marked S-VHS is inserted with S-VHS mode set to "AUTO", and when an S-VHS-recorded tape is played back. ☞ pg. 32, 33

❻ **Channel Display** shows preset position where the station currently being received is stored.
Clock Display shows current time. ☞ pg. 10

❼ **Tape Speed Indicators** display mode of recording; light during Record or Play mode. (in the S-VHS or VHS mode) ☞ pg. 14

**EP is only for NTSC playback.*

❽ **Audio Mode Indicator** displays audio output mode currently selected. ☞ pg. 38, 39

❾ **Tape Remaining Time Indicator** displays time remaining on tape when certain buttons are pressed. ☞ pg. 17

❿ **"Cassette Loaded" Mark** lights once a cassette is inserted; remains lit until cassette ejected.

⓫ **PDC Indicator** lights when PDC has been engaged for timer recording. ☞ pg. 19, 21

** VPS (Video Programme System) recording is not currently available in the U.K. and not possible with this recorder.*

⓬ **VCR Indicator** lights when the video recorder is in the video mode. At this point, the TV automatically enters AV mode. ☞ pg. 12

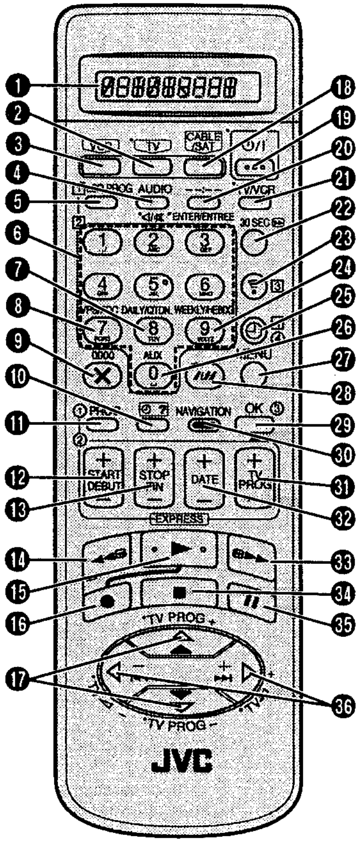
⓭ **Counter** shows time elapsed since playback or recording began.*
With ◣ displayed, shows time remaining from current tape position to end of tape (☞ pg. 17).
Counter, Preset Position**, Clock and Tape Remaining Time Display appear alternately when **DISPLAY** (or – –:– – on remote control) is pressed.

** If the counter exceeds –20 hours ("–20:00:00"), the display does not show the "–2" of "–20:00:00". In this case, confirm the counter on the TV screen.*

*** Preset Position is not displayed during playback.*

⓮ **Mode** shows external input mode selected (I-1, L-1, L-2, F-1, S-1 or S-2).

REMOTE CONTROL



Buttons with a small dot on the left side of the name can also be used to operate your TV. ☞ pg. 43

① **LCD Panel** indicates which of the recorder, TV and satellite receiver the remote control can currently operate ☞ pg. 77; is used in the VIDEO Plus+ timer programming ☞ pg. 18.

② **TV Button** enables remote control of connected TV. ☞ pg. 43, 77

③ **VCR Button** enables remote control of VCR or is used for switching A/B code of the remote control. ☞ pg. 42, 77

④ **AUDIO Button** changes output sound mode. ☞ pg. 38, 39

🔈/🔇 (TV Muting) Button mutes sound of connected TV. ☞ pg. 43

⑤ **LCD PROG Button** accesses the VIDEO Plus+ display on LCD panel. ☞ pg. 18

⑥ **NUMBER Keys** are used in preset position selection ☞ pg. 14, the VIDEO Plus+ timer programming ☞ pg. 18.

⑦ **DAILY Button** enables timer recording of daily serials. ☞ pg. 19, 21

⑧ **PDC Button** enables/disables PDC recording. ☞ pg. 19, 21

** VPS (Video Programme System) recording is not currently available in the U.K. and not possible with this recorder.*

⑨ **X Button** cancels timer-programme. ☞ pg. 23

0000 Button resets counter to 0:00:00. ☞ pg. 17

⑩ **◷ ? Button** accesses Program screens/displays to check the programme that you have programmed (next programme's information screen/display appears each time button is pressed). ☞ pg. 22

⑪ **PROG Button** accesses the VIDEO Plus+ Program screen. ☞ pg. 18

⑫ **START +/– Button** accesses Regular Program screen; inputs programme Start Time. ☞ pg. 20

⑬ **STOP +/– Button** inputs programme Stop Time. ☞ pg. 20

⑭ **Rewind [REW] Button** — same as button on recorder. ☞ pg. 12, 13

⑮ **Play Button** — same as button on recorder. ☞ pg. 12, 13

⑯ **Record Button** — same as button on recorder. ☞ pg. 14

⑰ **△▽ Button** is used for selection in on-screen menus. ☞ pg. 33

TV PROG +/– selects the connected TV's/satellite receiver's channel. ☞ pg. 43, 44

⑱ **CABLE/SAT Button** enables remote control of connected satellite receiver. ☞ pg. 44, "Remote Control LCD" in the right column

⑲ **STANDBY/ON ⏻/I Button** — same as button on recorder.

⑳ **– –:– – (DISPLAY) Button** switches display between clock time, tape remaining time, counter readings and preset position*. ☞ pg. 17

** Preset position is not displayed during playback.*

㉑ **TV/VCR Button** switches connected TV's mode between TV and AV. ☞ pg. 12

㉒ **30 SEC Button** initiates a 30-second period of fast-motion playback. ☞ pg. 37

㉓ **📶 Button** transmits entered the PlusCode number to the recorder. ☞ pg. 18

㉔ **WEEKLY Button** enables timer recording of weekly serials. ☞ pg. 19, 21

㉕ **◷ (TIMER) Button** — same as **◷TIMER** button on recorder. ☞ pg. 19, 21

㉖ **AUX Button** selects recorder's auxiliary input mode. ☞ pg. 46, 48, 51

㉗ **MENU Button** accesses Menu screen. ☞ pg. 33

㉘ **Auto Tracking Button (///)** enables/disables auto tracking mode during playback ☞ pg. 36

STD/LS3 (SP/LP) Button selects tape speed. ☞ pg. 14

㉙ **OK Button** — same as button on recorder. ☞ pg. 33

㉚ **NAVIGATION Button** — same as button on recorder. ☞ pg. 24

㉛ **TV PROG +/– Button** — same as button on recorder. ☞ pg. 14

㉜ **DATE +/– Button** inputs date of programme for timer recording. ☞ pg. 20

㉝ **Fast Forward [FF] Button** — same as button on recorder. ☞ pg. 12, 13

㉞ **Stop Button** — same as button on recorder. ☞ pg. 12

㉟ **Pause Button** — same as button on recorder. ☞ pg. 13

㊱ **◁▷ Button** initiates functions such as Index Search ☞ pg. 37, variable-speed search, frame by frame playback. ☞ pg. 12

TV ⊿ +/– Button controls volume of connected TV. ☞ pg. 43

How To Use

The remote control can operate most of your video recorder's functions, as well as basic functions of TV sets and satellite receivers of JVC and other brands.
(☞ pg. 43, 44)

- Point the remote control toward the sensor window.
- The maximum operating distance of the remote control is about 8 m.

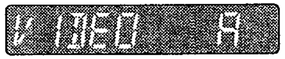
NOTES:

- *When inserting the batteries, be sure to insert in the correct directions as indicated under the battery cover.*
- *If the remote control doesn't work properly, remove its batteries, wait a short time, replace the batteries and then try again.*

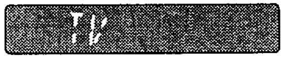
Remote Control LCD

The remote control can operate not only the video recorder but also some of your TV and satellite receiver's functions. The LCD indicates which of these (VIDEO, TV or CABLE/SAT) the remote control can currently operate. When you first purchase the remote control, or after you have just replaced the batteries, VIDEO A (A code) is selected.

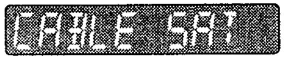
1 To operate your video recorder, first press the **VCR** button to set the remote control to the Video mode.
To switch remote control's A/B code, refer to page 42.



2 To operate your TV, first press the **TV** button to set the remote control to the TV mode (☞ pg. 43).



3 To operate your satellite receiver, first press the **CABLE/SAT** button to set the remote control to the Satellite receiver mode (☞ pg. 44).



NOTES:

Even if "TV" is displayed on the LCD, the following operations can be performed without switching the mode.

- *Basic operations for the recorder*
  After an operation is completed, "TV" reappears on the LCD.
- *Express Timer Programming and VIDEO Plus+ Timer Programming operations*
  To perform a TV operation again, switch to TV mode first.
- *Accessing main menu*
  To perform a TV operation again, switch to TV mode first.

LIST OF TERMS

A

A/B Code 42
Audio Rec Mode 39
Auto Set Up 8
Auto SP → LP Timer 55
Auto Timer 55
Automatic Satellite Programme Recording 40
Aux Input 46

B

B.E.S.T. Picture System 34

C

Cancel Timer Programme 23
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D

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  Sorting By Date 31
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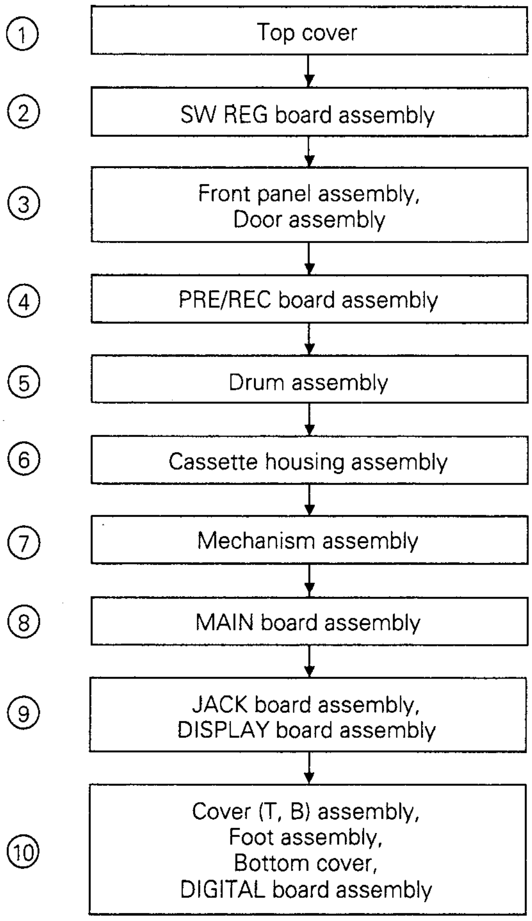
VIDEO Plus+® Timer Programming 18

MEMO

SECTION 1
DISASSEMBLY

1.1 DISASSEMBLY FLOW CHART

This flowchart lists shows the disassembling steps for the cabinet parts and P.C. boards in order to gain access to item(s) to be serviced. When reassembling, perform the step(s) in reverse order. Bend, route and dress the flat cables as they were originally laid.


① Top cover
② SW REG board assembly
③ Front panel assembly, Door assembly
④ PRE/REC board assembly
⑤ Drum assembly
⑥ Cassette housing assembly
⑦ Mechanism assembly
⑧ MAIN board assembly
⑨ JACK board assembly, DISPLAY board assembly
⑩ Cover (T, B) assembly, Foot assembly, Bottom cover, DIGITAL board assembly

1.2 HOW TO READ THE DISASSEMBLY AND ASSEMBLY

STEP /LOC NO.	PART NAME	FIG. NO.	POINT	NOTE
①	TOP COVER	D1	4(S1a), 3(L1a), S.PANEL(L) ASSY, 3(L1b), S.PANEL(R) ASSY, (S1b)	<NOTE1>
②	SW REG BOARD ASSEMBLY	D2	L2(WR2a-WR2e), CN5304/CN5309(WR2a), CN5306(WR2b), CN5307(WR2c), CN5303(WR2d), CN5305(WR2e), CN5301(WR2f), 4(S2)	<NOTE 2a> <NOTE 2b> <NOTE 2c> <NOTE 2d>
③	FRONT PANEL ASSEMBLY	D3a	2(S3a), 9(L3), CN7102(WR3a), CN7004(WR3b)	<NOTE 2a> <NOTE 3a>
	DOOR ASSEMBLY	D3b	(S3b), WR3c, (S3c), SHAFT(R) ASSY, 2(S3d), SHAFT(L) ASSY, 2(S3e), DAMP UNIT ASSY, 2(S3f), SHAFT ASSY	<NOTE 3b> <NOTE 3c>
④	PRE/REC BOARD ASSEMBLY	D4	CN602(WR4a), CN601(WR4b), L4(WR4c), (S4a), SHIELD CASE(PRE/REC), CN605(WR4d), (S4b), WR4c, CN603, CN604	<NOTE 2a> <NOTE 4>
⑤	DRUM ASSEMBLY	D5	CN1(WR5a), CN1(WR5b), (L5a), HEAD CLEANER ASSY, 3(S5), 4(L5b), INERTIA PLATE	<NOTE 2a> <NOTE 5>
⑥	CASSETTE HOUSING ASSEMBLY	D6a, D6b	CN3603(WR6), 2(S6a), (S6b), (S6c), 2(L6)	<NOTE 2a> <NOTE 6>
⑦	MECHANISM ASSEMBLY	D7	CN3002(WR7a), CN1(WR7b), WR7c, 2(S7), 2(L7)	<NOTE 2a> <NOTE 7>

↑ (1) ↑ (2) ↑ (3) ↑ (4) ↑ (5)

(1) Order of steps in Procedure
When reassembling, perform the step(s) in the reverse order. These numbers are also used as the identification (location) NO. of parts Figures.

(2) Part name to be removed or installed.

(3) Fig.No. showing procedure or part location

(4) Identification of part to be removed,unhooked,unlocked, released,unpluged,unclamped or unsoldered. P = Spring, W = Washer, S = Screw, L = Locking tab, CNxx(WRxx) = Remove the wire (WRxx) from the connector (CNxx).

NOTE: *The bracketed ( ) WR of the connector symbol are assigned nos. in priority order and do not correspond to those on the spare parts list.*

(5) Adjustment information for installation

1.3 DISASSEMBLY/ASSEMBLY METHOD

STEP /LOC NO.	PART NAME	FIG. NO.	POINT	NOTE
①	TOP COVER	D1	4(S1a), 3(L1a), S.PANEL(L) ASSY, 3(L1b), S.PANEL(R) ASSY, (S1b)	<NOTE1>
②	SW REG BOARD ASSEMBLY	D2	L2(WR2a-WR2e), CN5304/CN5309(WR2a), CN5306(WR2b), CN5307(WR2c), CN5303(WR2d), CN5305(WR2e), CN5301(WR2f), 4(S2)	<NOTE 2a> <NOTE 2b> <NOTE 2c> <NOTE 2d>
③	FRONT PANEL ASSEMBLY	D3a	2(S3a), 9(L3), CN7102(WR3a), CN7004(WR3b)	<NOTE 2a> <NOTE 3a>
	DOOR ASSEMBLY	D3b	(S3b), WR3c, (S3c), SHAFT(R) ASSY, 2(S3d), SHAFT(L) ASSY, 2(S3e), DAMP UNIT ASSY, 2(S3f), SHAFT ASSY	<NOTE 3b> <NOTE 3c>
④	PRE/REC BOARD ASSEMBLY	D4	CN602(WR4a), CN601(WR4b), L4(WR4c), (S4a), SHIELD CASE(PRE/REC), CN605(WR4d), (S4b), WR4c, CN603, CN604	<NOTE 2a> <NOTE 4>
⑤	DRUM ASSEMBLY	D5	CN1(WR5a), CN1(WR5b), (L5a), HEAD CLEANER ASSY, 3(S5), 4(L5b), INERTIA PLATE	<NOTE 2a> <NOTE 5>
⑥	CASSETTE HOUSING ASSEMBLY	D6a, D6b	CN3603(WR6), 2(S6a), (S6b), (S6c), 2(L6)	<NOTE 2a> <NOTE 6>
⑦	MECHANISM ASSEMBLY	D7	CN3002(WR7a), CN1(WR7b), WR7c, 2(S7), 2(L7)	<NOTE 2a> <NOTE 7>
⑧	MAIN BOARD ASSEMBLY	D8	CN7101(WR8a), CN7001(WR8b), CN3602(WR8c), CN3605(WR8d), CN3606(WR8e), L8(WR8f-WR8g), CN2601(WR8f), CN1006(WR8g), 4(S8)	<NOTE 2a>
⑨	JACK BOARD ASSEMBLY	D9	CN7103, 2(L9a)	<NOTE 2a>
	DISPLAY BOARD ASSEMBLY		(L9b), REC SAFETY BOARD ASSY, (L9c), CASS.SW BOARD ASSY, 4(L9d)	
⑩	COVER(T.B) ASSEMBLY, FOOT ASSEMBLY, BOTTOM COVER, DIGITAL BOARD ASSEMBLY	D10a D10b	5(S10a), 2(S10b), 2(S10c), 4(S10d), 4(L10), 4(S10e)	<NOTE 2a> <NOTE 10a> <NOTE 10b>

<NOTE 1> When installing the Top cover, make sure not to isolate the earth plate of the Front panel assembly.

<NOTE 2a> Be careful not to damage the connectors and wires etc. during connection and disconnection.
When connecting the wires to the connectors, be careful with the wire direction.

<NOTE 2b> Take care that the wires are not subjected to stress when plugging or unplugging wires.

<NOTE 2c> The shield cover of the SW REG board assembly is soldered to the board, be careful not to peel off the solder from the pattern when handling it.

<NOTE 2d> When installing the SW REG board assembly, make sure that the earth plate is passed through the hole in the Bottom chassis and then touches the Bottom cover.

<NOTE 3a> When installing the Front panel assembly, make sure that the door opener ⓐ is lowered.

<NOTE 3b> When fixing the screw (S3b), jointly secure the lug wire (WR3c).

<NOTE 3c> When installing the Damper unit assembly and the Shaft assembly, secure them jointly with a screw while loosening the earth plate of the Front panel assembly.

<NOTE 4> When fixing the screw (S4b), jointly secure the lug wire (WR4c).

<NOTE 5> When installing the Head cleaner assembly, install the Head cleaner assembly ⓓ so that it will be on the drum side of the guide rail ⓔ.
When installing the Drum assembly, secure it with the screws (S5) ⓐ, ⓑ, ⓒ, in that order.

<NOTE 6> When installing the Cassette housing assembly, make sure that the control cam and the main deck alignment holes are aligned. If they are not, rotate the routing motor belt to the front to align the holes.
When installing the Cassette housing assembly, be careful not to damage the REC SAFETY SW, CASS. SW, S-VHS SW or Mechanism assembly parts.

<NOTE 7> There are two coupling spacers between the Mechanism assembly and the MAIN board assembly. To remove the Mechanism assembly, disengage the spacer hook (L7) at the mechanism side by pinching it with pliers etc. then pull out the Mechanism assembly.
When installing the Mechanism assembly, be careful not to damage any of the sensors or switches on the MAIN board assembly.

<NOTE10a> When installing the DIGITAL board assembly and the Bottom cover on the Bottom chassis, make sure that the wires are not caught.

<NOTE10b> Be careful when plugging or unplugging a wire.

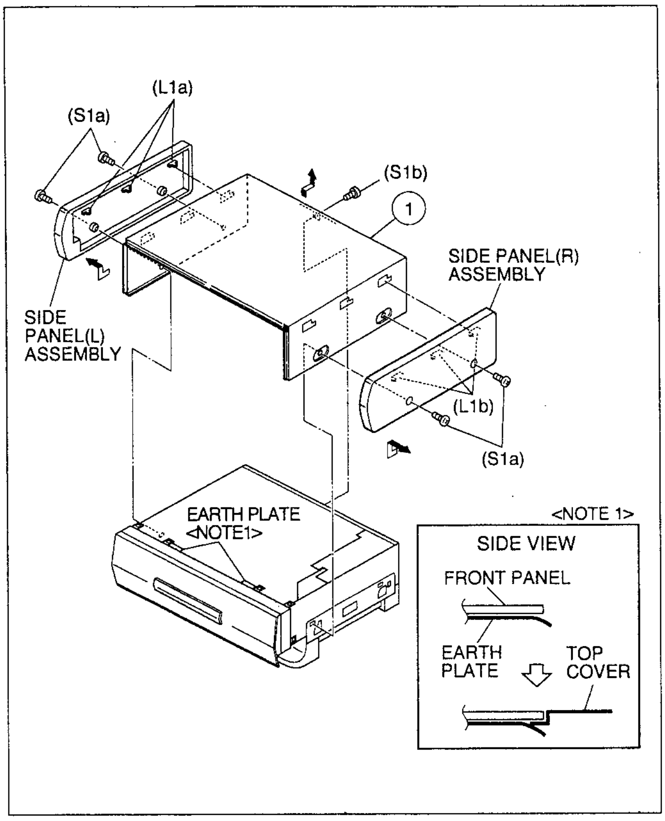
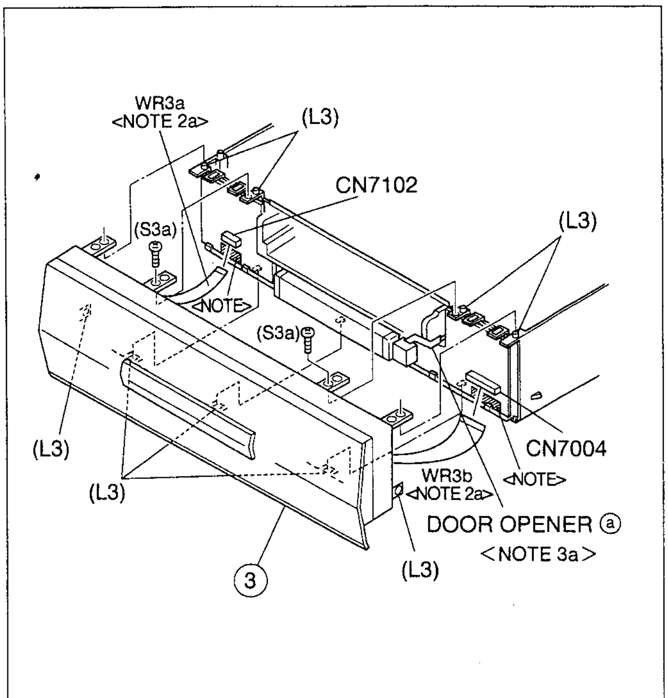

(L1a)
(S1a)
(S1b)
1
SIDE PANEL(R) ASSEMBLY
SIDE PANEL(L) ASSEMBLY
(L1b)
(S1a)
EARTH PLATE <NOTE1>
<NOTE 1>
SIDE VIEW
FRONT PANEL
EARTH PLATE
TOP COVER

Fig. D1


WR3a <NOTE 2a>
(L3)
CN7102
(S3a)
(L3)
<NOTE>
(S3a)
(L3)
(L3)
CN7004
WR3b <NOTE 2a>
<NOTE>
DOOR OPENER ⓐ
<NOTE 3a>
3
(L3)

Note: Place the slack portion of the (WR3a and WR3b) wires in the gap in the oblique section of the line ▨.

Fig. D3a

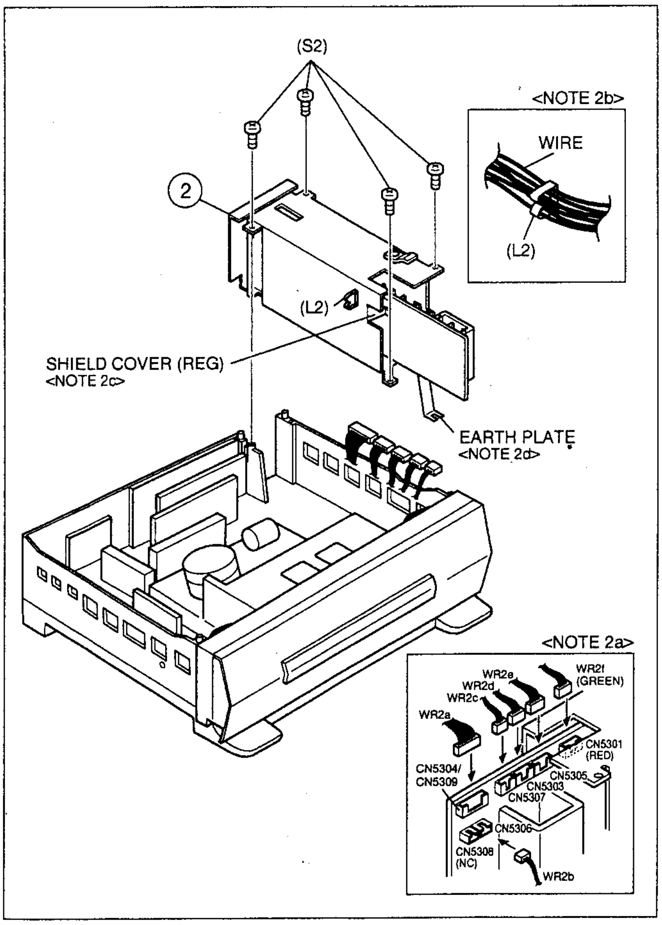

(S2)
<NOTE 2b>
WIRE
(L2)
2
(L2)
SHIELD COVER (REG) <NOTE 2c>
EARTH PLATE <NOTE 2d>
<NOTE 2a>
WR2a
WR2c
WR2d
WR2e
WR2f (GREEN)
CN5301 (RED)
CN5304/ CN5309
CN5305
CN5303
CN5307
CN5306
CN5308 (NC)
WR2b

Fig. D2

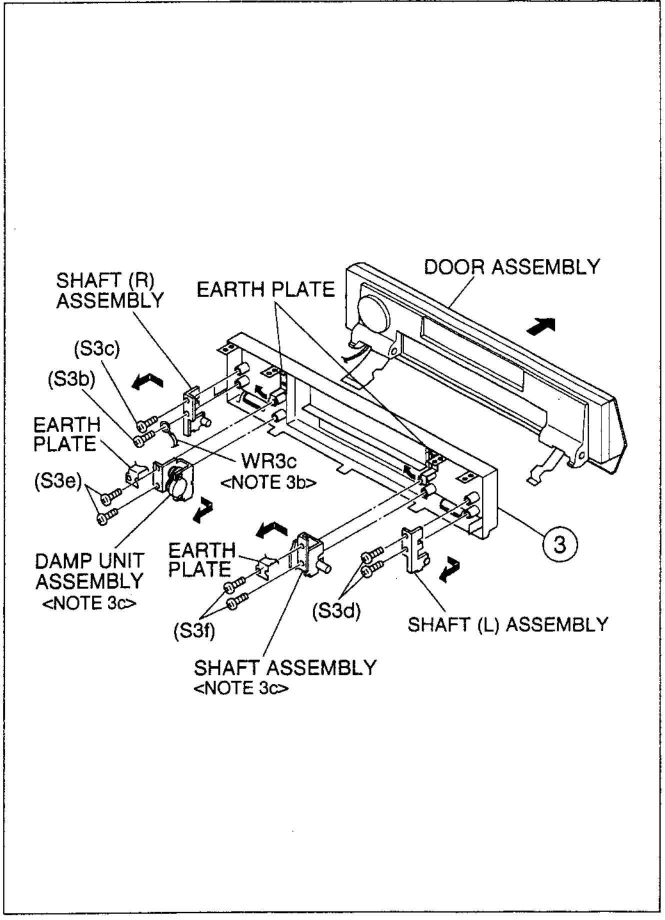

SHAFT (R) ASSEMBLY
EARTH PLATE
DOOR ASSEMBLY
(S3c)
(S3b)
EARTH PLATE
WR3c <NOTE 3b>
(S3e)
DAMP UNIT ASSEMBLY <NOTE 3c>
EARTH PLATE
3
(S3f)
(S3d)
SHAFT (L) ASSEMBLY
SHAFT ASSEMBLY <NOTE 3c>

Fig. D3b

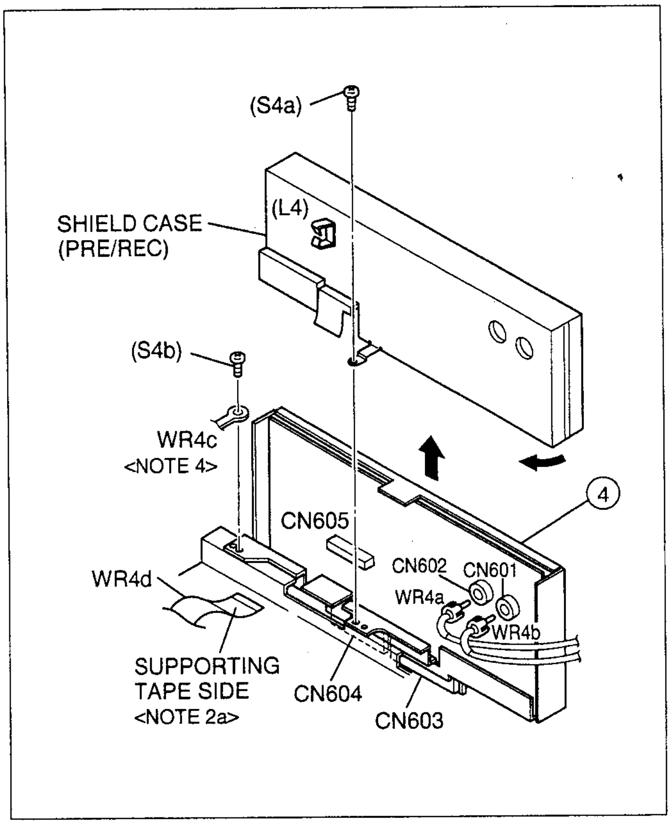

(S4a)
SHIELD CASE
(PRE/REC)
(L4)
(S4b)
WR4c
<NOTE 4>
CN605
4
WR4d
CN602
CN601
WR4a
WR4b
SUPPORTING
TAPE SIDE
<NOTE 2a>
CN604
CN603

Fig. D4

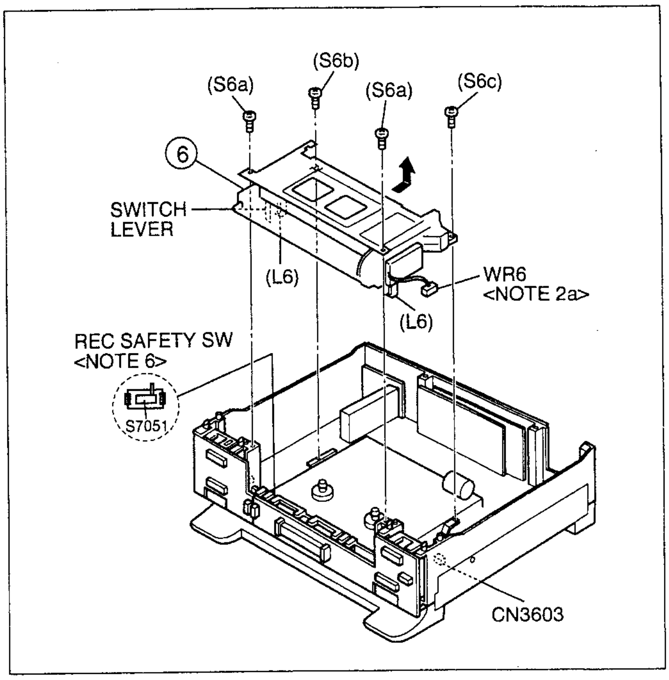

(S6a)
(S6b)
(S6a)
(S6c)
6
SWITCH
LEVER
(L6)
WR6
<NOTE 2a>
(L6)
REC SAFETY SW
<NOTE 6>
S7051
CN3603

Fig. D6a

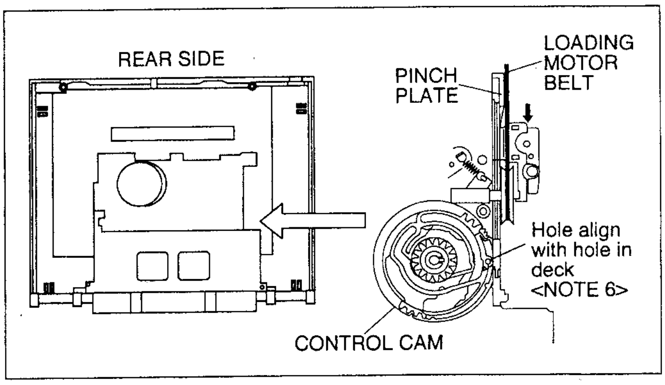

REAR SIDE
PINCH
PLATE
LOADING
MOTOR
BELT
Hole align
with hole in
deck
<NOTE 6>
CONTROL CAM

Fig. D6b

NOTE: When installing the DRUM assembly, secure the screws (S5) in the order of ⓐ, ⓑ, ⓒ.

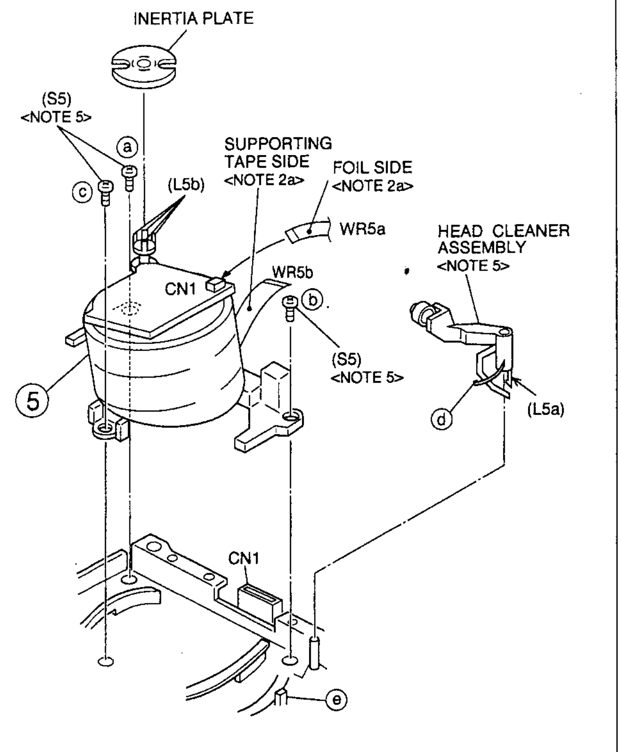

INERTIA PLATE
(S5)
<NOTE 5>
ⓐ
ⓒ
(L5b)
SUPPORTING
TAPE SIDE
<NOTE 2a>
FOIL SIDE
<NOTE 2a>
WR5a
HEAD CLEANER
ASSEMBLY
<NOTE 5>
CN1
WR5b
ⓑ
(S5)
<NOTE 5>
5
ⓓ
(L5a)
CN1
ⓔ

Fig. D5

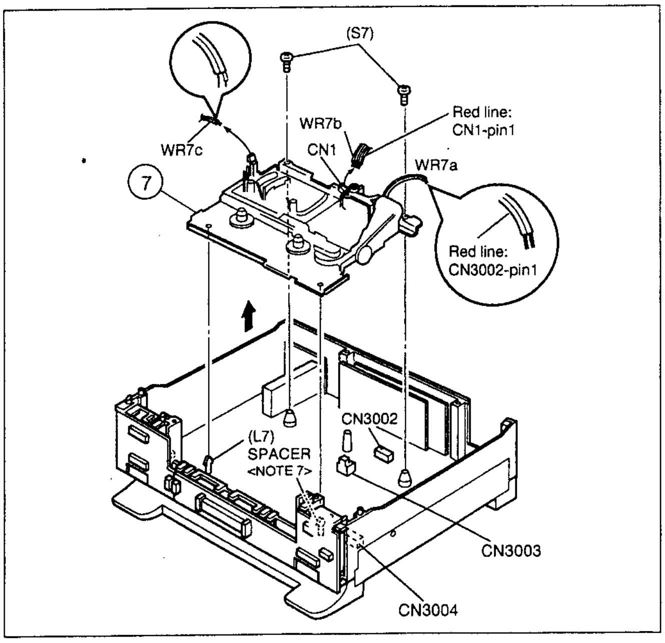

(S7)
WR7b
Red line:
CN1-pin1
WR7c
CN1
WR7a
7
Red line:
CN3002-pin1
(L7)
SPACER
<NOTE 7>
CN3002
CN3003
CN3004

Fig. D7

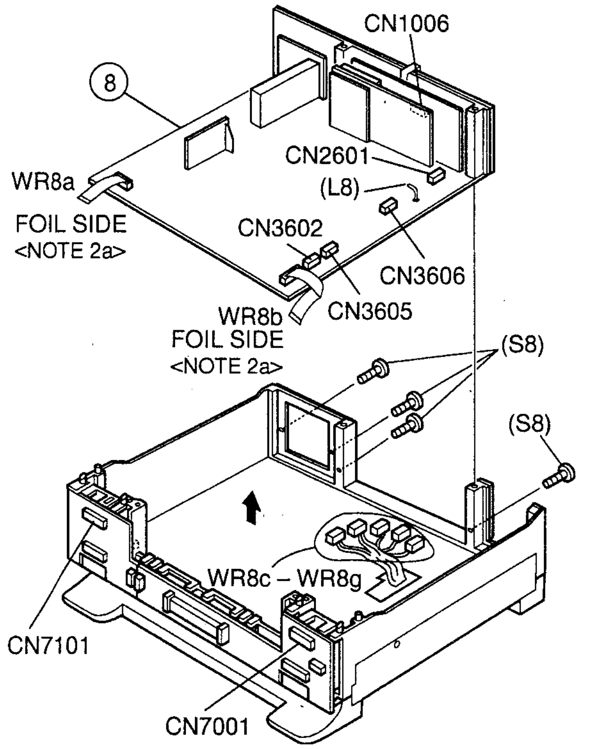

CN1006
8
WR8a
CN2601
(L8)
FOIL SIDE
<NOTE 2a>
CN3602
CN3606
WR8b
CN3605
FOIL SIDE
<NOTE 2a>
(S8)
(S8)
WR8c – WR8g
CN7101
CN7001

Fig. D8

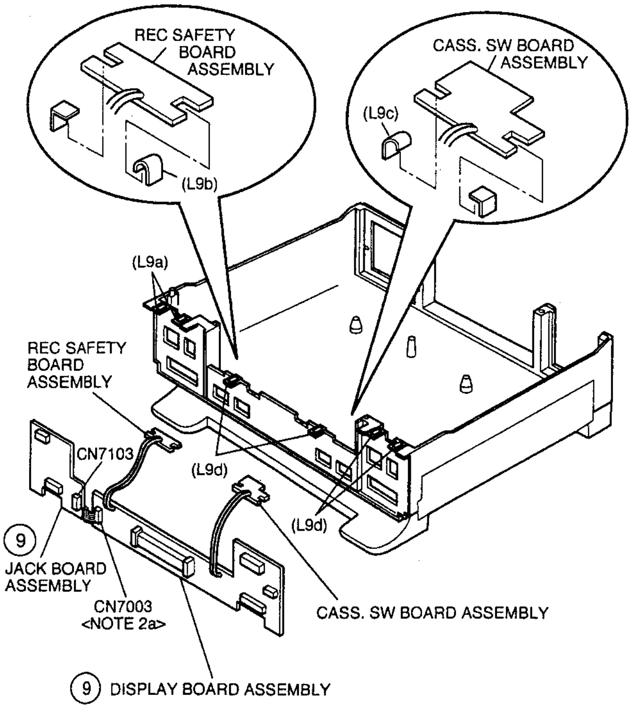

REC SAFETY
BOARD
ASSEMBLY
(L9b)
CASS. SW BOARD
ASSEMBLY
(L9c)
(L9a)
REC SAFETY
BOARD
ASSEMBLY
CN7103
(L9d)
(L9d)
9
JACK BOARD
ASSEMBLY
CN7003
<NOTE 2a>
CASS. SW BOARD ASSEMBLY
9 DISPLAY BOARD ASSEMBLY

Fig. D9

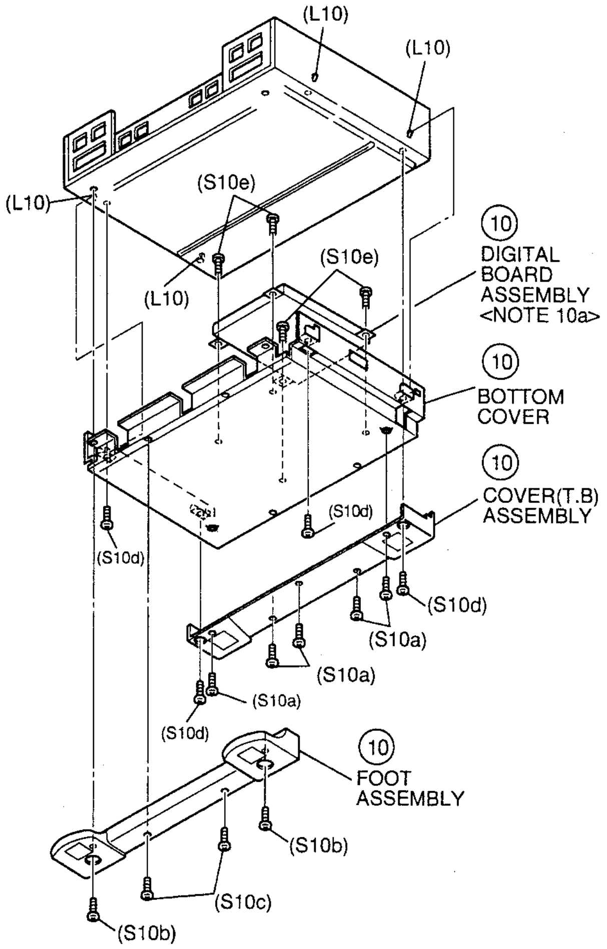

(L10)
(L10)
(L10)
(S10e)
(S10e)
(L10)
10
DIGITAL
BOARD
ASSEMBLY
<NOTE 10a>
10
BOTTOM
COVER
10
COVER(T.B)
ASSEMBLY
(S10d)
(S10d)
(S10d)
(S10a)
(S10a)
(S10a)
(S10d)
10
FOOT
ASSEMBLY
(S10b)
(S10c)
(S10b)

Fig. D10a

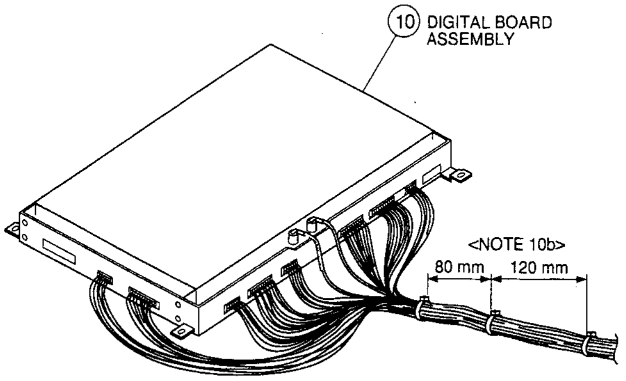

10 DIGITAL BOARD
ASSEMBLY
<NOTE 10b>
80 mm
120 mm

Fig. D10b

1.4 SERVICE POSITION

In order to facilitate diagnosis and the repair of the Mechanism assembly, this unit is constructed so as to allow the Mechanism and MAIN board assemblies to be removed together from the Bottom chassis assembly.

1.4.1 How to take out the Mechanism and MAIN board assemblies.

(1) Remove the Top cover, SW REG board assembly and Front panel assembly. (See DISASSEMBLY/ASSEMBLY METHOD.)

(2) Remove the flat wires CN7101 on the JACK board assembly, CN7001 on the DISPLAY board assembly.
(See Fig.D8 of DISASSEMBLY/ASSEMBLY METHOD.)

(3) Remove the wires CN3602, CN3605, CN3606 and CN2601 on the MAIN board assembly. (See Fig.D8 of DISASSEMBLY/ASSEMBLY METHOD.)

(4) Remove the flat wire CN1006 on the 3D SVHS board assembly. (See Fig.D8 of DISASSEMBLY/ASSEMBLY METHOD.)

(5) Remove the wires CN601 and CN602 on the PRE/REC board assembly. (See Fig.D4 of DISASSEMBLY/ASSEMBLY METHOD.)

(6) Take out the 4 screws Ⓐ, 2 screws Ⓑ and 2 screws Ⓒ as shown in Fig.1-4-1.

(7) Remove the Mechanism assembly (including Cassette housing) and MAIN board assembly out of the chassis as shown in Fig.1-4-2.

(8) Remove the JACK board assembly and DISPLAY board assembly (including REC SAFETY board assembly and CASS. SW board assembly). (See DISASSEMBLY/ASSEMBLY METHOD.)

(9) Remove the DIGITAL board assembly. (See DISASSEMBLY/ASSEMBLY METHOD.)

Note: *When remove the DIGITAL board assembly, remove the foot, cover(T.B) and bottom cover together.*

(10) Connect the wires which were removed at the steps (1) to (5).

(11) Carry out diagnosis and repair as necessary as shown in Fig.1-4-3.

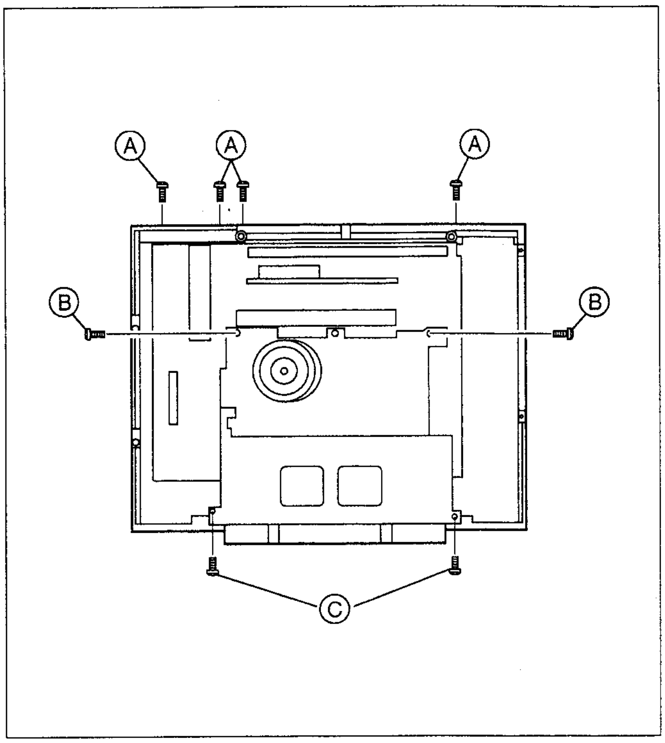


Fig. 1-4-1

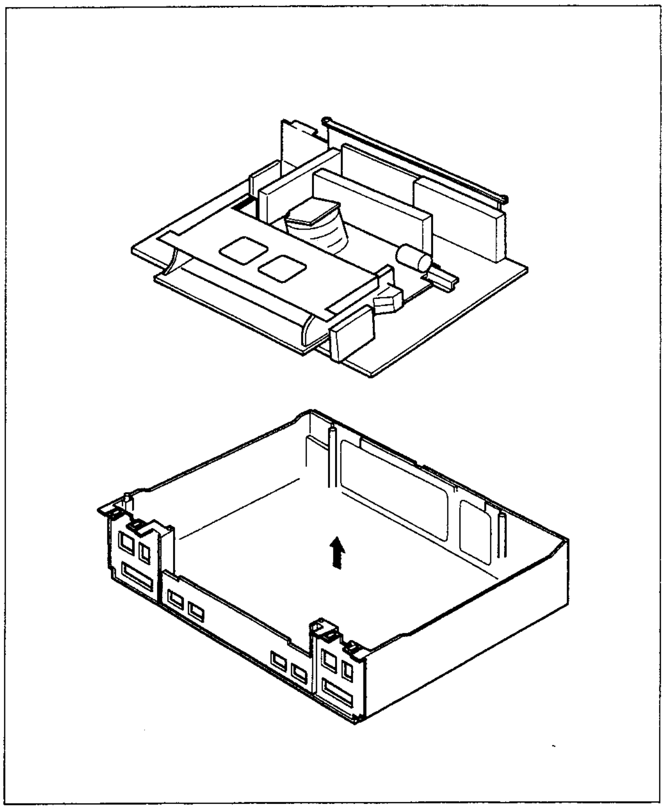


Fig. 1-4-2

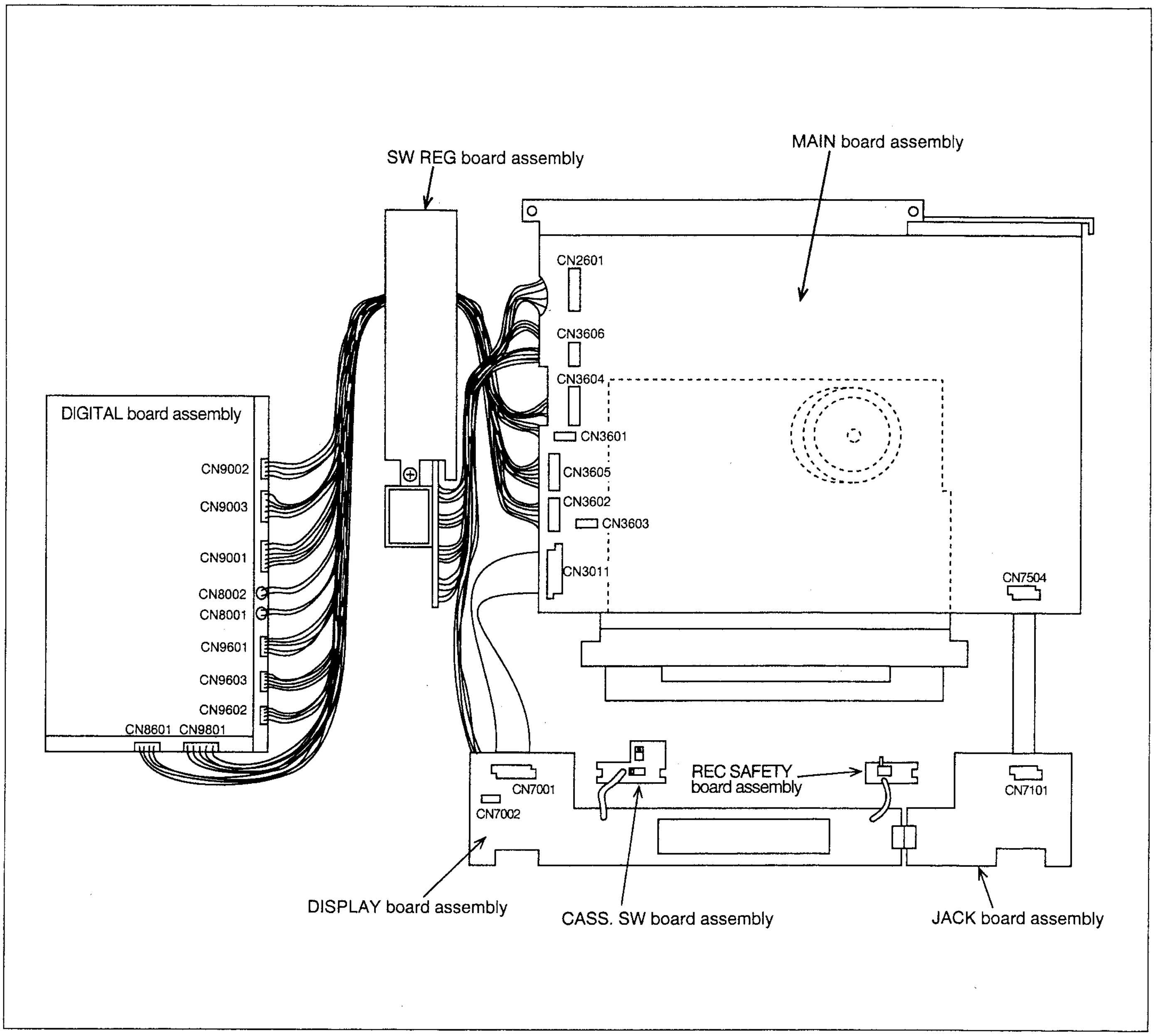

SW REG board assembly
MAIN board assembly
DIGITAL board assembly
CN9002
CN9003
CN9001
CN8002
CN8001
CN9601
CN9603
CN9602
CN8601
CN9801
CN2601
CN3606
CN3604
CN3601
CN3605
CN3602
CN3603
CN3011
CN7504
CN7001
CN7002
REC SAFETY board assembly
CN7101
DISPLAY board assembly
CASS. SW board assembly
JACK board assembly

Fig. 1-4-3

1.4.2 Precautions for cassette loading in the "SERVICE POSITION"

The REC SAFETY board assembly of this set detects cassette loading as well as cassette tabs. Therefore, cassette loading in the "SERVICE POSITION" that the mechanism is disassembled from the set needs manual operation of the switches on the REC SAFETY and CASS. SW board assemblies.

1.4.3 Cassette loading and ejection methods in the "SERVICE POSITION"

(1) Insert a cassette tape halfway in the Cassette housing assembly.
(2) Press the switch (S7051) on the REC SAFETY board assembly.
(3) When the cassette loading begins and the cassette tape goes down to the mechanism side, immediately release the switch (S7051) on the REC SAFETY board assembly to turn off and hold the status that the switch (S7053) on the CASS. SW board assembly is turned on. (Fix the switch with adhesive tape, etc. on it to leave the switch in the ON status.)
(4) In this status, desired operations (recording, playback, fast forward, rewind, etc.) can be performed.

Note: *When the mechanism is in the service position, the safety tab of cassette tape is not detected and recording becomes possible even with a cassette tape with broken tab such as the alignment tape. Be very careful not to erase important tapes.*

(5) For ejecting the cassette tape in this status, do it in the reverse order of cassette loading mentioned above.

Note: *If the manual operation REC SAFETY switch timing is incorrect, the cassette tape may be completely or partially ejected, and the cassette tape is often ejected incompletely. In such a case, it is possible to take out the cassette tape by hand.*

(6) If it is desired to load a cassette tape again after the cassette tape in the above procedure, make sure to set the tray of the Cassette housing assembly in the frontmost position prior to loading the cassette tape again.

Note: *The CASS. SW board assembly of this set has S-VHS tape detect switch (S7052). When performing diagnostics with a VHS cassette tape, press this switch on the CASS. SW board assembly to turn on.*

1.4.4 Opening on the chassis

The bottom chassis of this set has openings for easy access to the checkpoints and connector pins. (See Fig.1-4-4.)

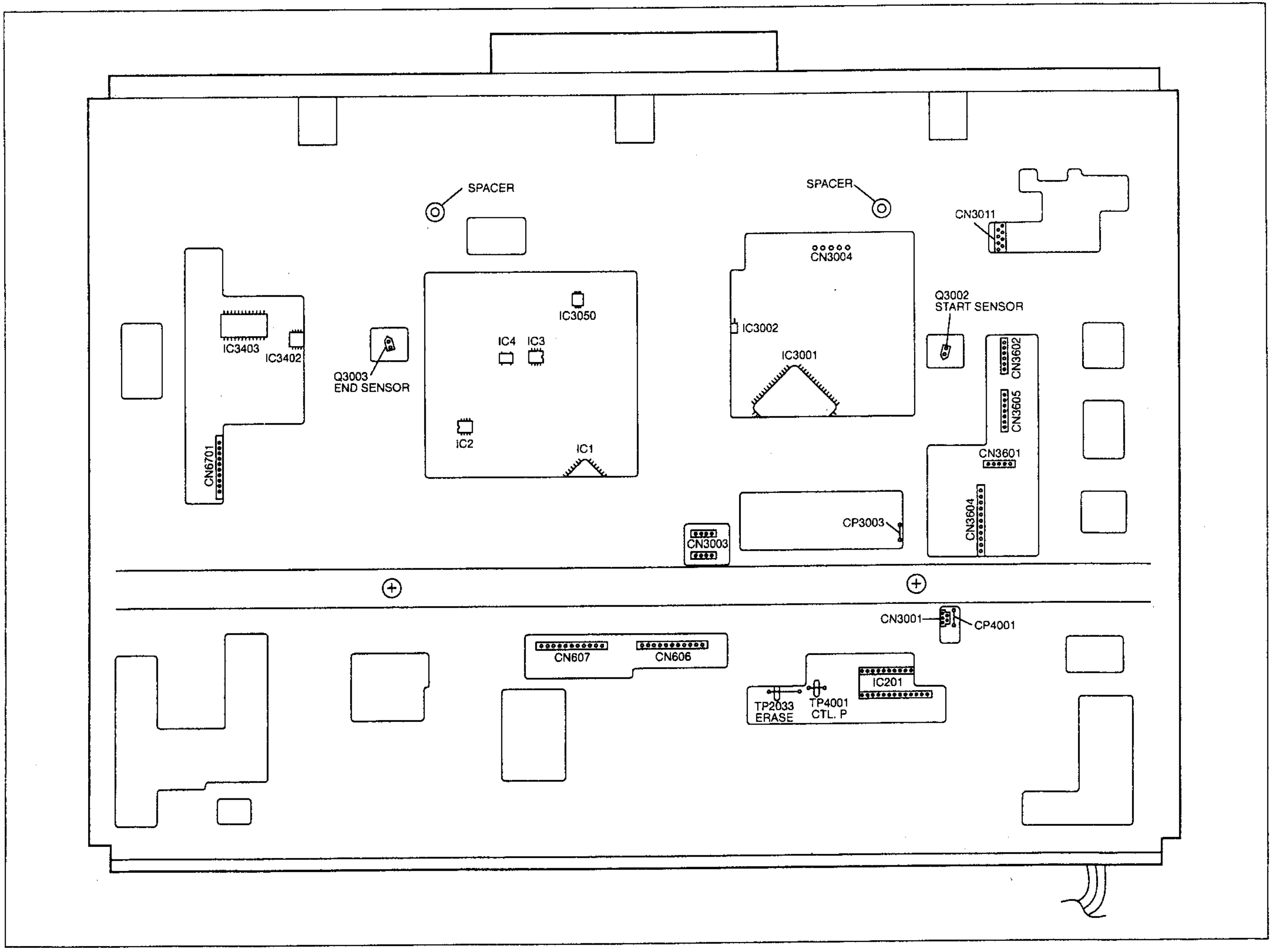


Fig. 1-4-4

1.5 MECHANISM SERVICE MODE

This model has a unique function to enter the mechanism into every operation mode without loading of any cassette tape. This function is called the "MECHANISM SERVICE MODE."

Note: *Before disassembling and assembling always refer to "HOW TO REMOVE THE MAJOR PARTS."*

1.5.1 How to set the "MECHANISM SERVICE MODE"

(1) Unplug the power plug from the power outlet.
(2) Remove the Top cover and Front panel assembly.
(3) Remove the Cassette housing assembly. (See "HOW TO REMOVE THE MAJOR PARTS.")
(4) Short-circuit TP7001(TEST) and TPGND(GND) on the DISPLAY board assembly.
(5) Plug the power plug into the power outlet.
The power of the set turn on, the loading operation occurs, and the power turns off.
(6) Switch the power on.
The mechanism mode moves, and the mechanism is in the "MECHANISM SERVICE MODE."
Now the desired operation is possible.

Note: *For operation of the mechanism mode, use the remote controller or the operation button after connecting the door assembly to the set.*

1.5.2 How to exit from the "MECHANISM SERVICE MODE"

(1) Unplug the power plug from the power outlet.
(2) Remove short-circuiting of TP7001(TEST) and TPGND(GND) on the DISPLAY board assembly.
(3) Plug the power plug into the power outlet.
The power of the set turn on, the unloading operation occurs, and the power turns off.

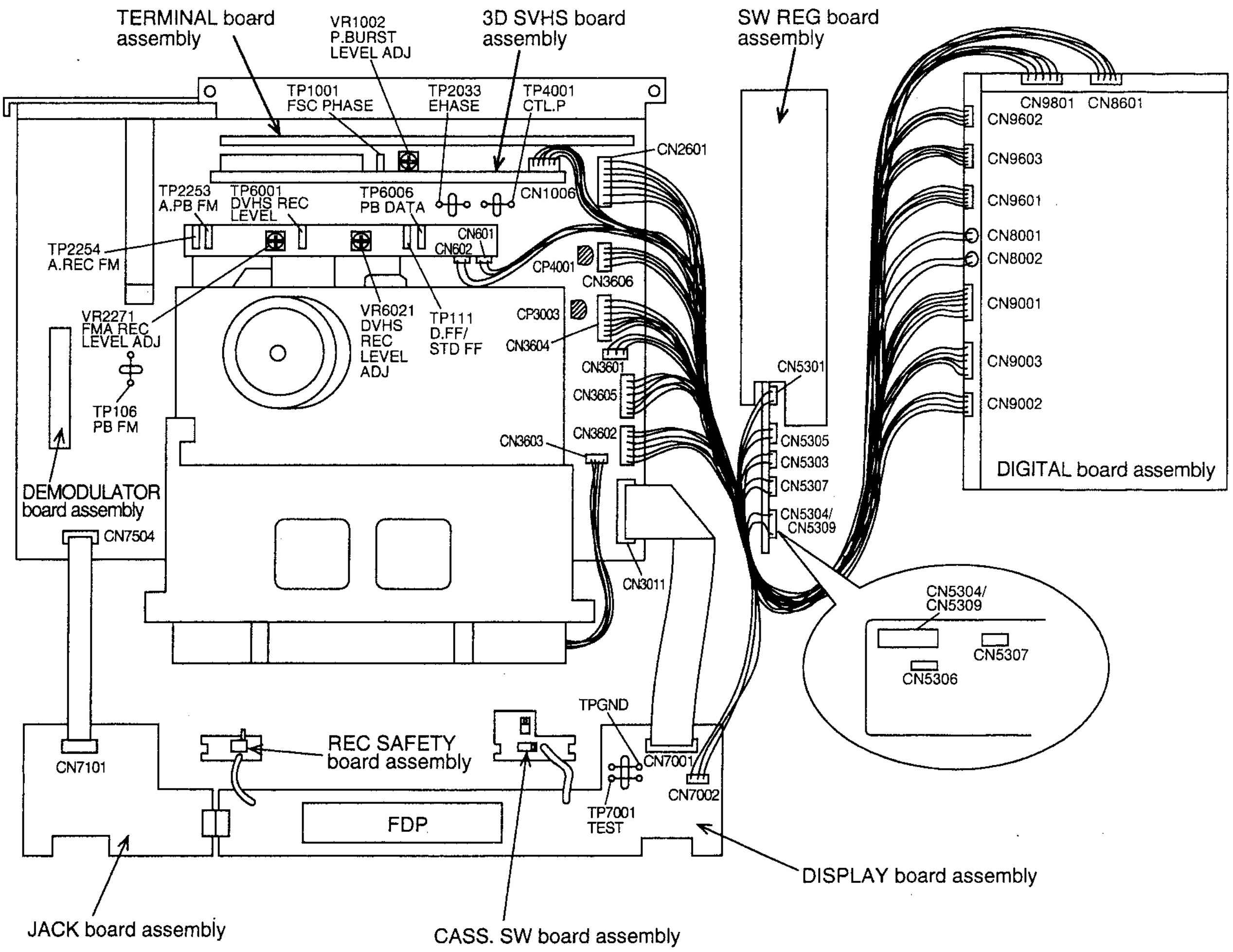

TERMINAL board assembly
VR1002 P.BURST LEVEL ADJ
3D SVHS board assembly
SW REG board assembly
TP1001 FSC PHASE
TP2033 EHASE
TP4001 CTL.P
CN2601
TP2253 A.PB FM
TP6001 DVHS REC LEVEL
TP6006 PB DATA
CN1006
TP2254 A.REC FM
CN601
CN602
CP4001
CN3606
VR2271 FMA REC LEVEL ADJ
VR6021 DVHS REC LEVEL ADJ
TP111 D.FF/ STD FF
CP3003
CN3604
CN3601
CN3605
CN3602
CN3603
TP106 PB FM
DEMODULATOR board assembly
CN7504
CN3011
CN5301
CN5305
CN5303
CN5307
CN5304/ CN5309
CN9801
CN8601
CN9602
CN9603
CN9601
CN8001
CN8002
CN9001
CN9003
CN9002
DIGITAL board assembly
CN5304/ CN5309
CN5307
CN5306
TPGND
CN7001
CN7002
TP7001 TEST
CN7101
REC SAFETY board assembly
FDP
DISPLAY board assembly
JACK board assembly
CASS. SW board assembly

Fig. 1-5-1

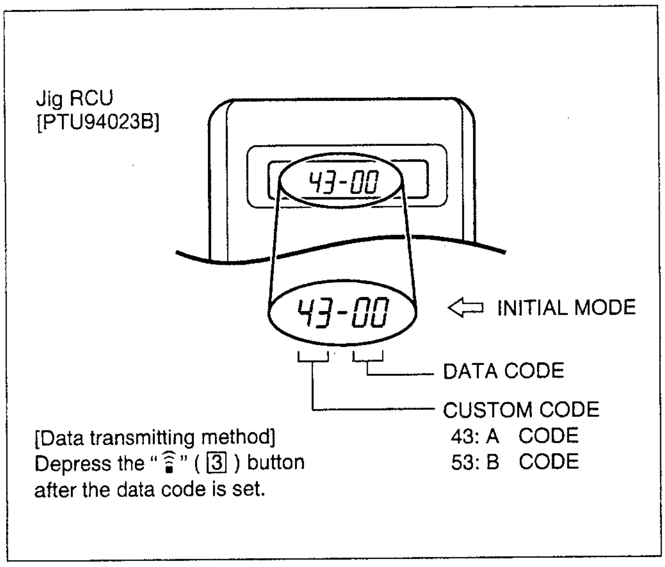
1.6 EMERGENCY DISPLAY FUNCTION

This unit has a function for storing the history of the past two emergencies (EMG) and displaying them on each FDP. With the status of the set and mechanism at the moment an emergency occurred can also be confirmed.

FDP display switching

→ FDP display 0 : 00 : 00 Normal display
↓
E : ** : ** Emergency content display (E:Latest:Previous)
↓
△△:□□: ×× Emergency detail display

NOTES: • *The emergency detail display shows the information on the latest emergency.*
It becomes "– – : – – : – –" when there is no latest emergency record.
• *When using the Jig RCU, set its custom code to match the custom code of the VCR.*



[Data transmitting method]
Depress the "📶" (3) button after the data code is set.

Fig. 1-6-1 Jig RCU

1.6.1 Displaying the emergency information

(1) Transmit the code "59" from the Jig RCU.
The FDP shows the emergency content in the form of "E:\**:**".

Example 1 E : 01 : 03
Previous emergency (03)
Latest emergency (01)

Example 2 E : – – : – – ← No emergency record

NOTE: • *For the emergency content, see "1.6.3 Emergency content description".*

(2) Transmit the code "59" from the Jig RCU again.
The FDP shows the emergency detail information in the form of "△△ : □□ : ××".

△△ : Deck operation mode at the moment of emergency
□□ : Mechanism mode at the moment of emergency
×– : Mechanism sensor information at the moment of emergency
–× : Mechanism mode position at the moment of emergency

NOTE: • *For the emergency detail information, see "1.6.4 Emergency detail description".*

(3) Transmit the code "59" from the Jig RCU once again to reset the display.

1.6.2 Clearing the emergency history

(1) Display the emergency history.
(2) Transmit the code "36" from the Jig RCU.
(3) Reset the emergency display.

1.6.3 Emergency content description

NOTE: *Emergency contents "E08/E09" are for the model with Dynamic Drum (DD).*

FDP	CONTENT	CAUSE
E01: Loading EMG	When the mechanism mode cannot be changed to another mode even when the loading motor has rotated for more than 4 seconds in the loading direction, [E:01] is identified and the power is turned off.	① The mechanism is locked in the middle of mode transition. ② The mechanism is locked at the loading end due to the encoder position reading error during mode transition. ③ Power is not supplied to the loading MDA.
E02: Unloading EMG	When the mechanism mode cannot be changed to another mode even when the loading motor has rotated for more than 4 seconds in the unloading direction, [E:02] is identified and the power is turned off.	① The mechanism is locked in the middle of mode transition. ② The mechanism is locked at the unloading end due to the encoder position reading error during mode transition. ③ Power is not supplied to the loading MDA.
E03: Take Up Reel Pulse EMG	When the take-up reel pulse has not been generated for more than 4 seconds in the capstan rotating mode, [E:03] is identified, the pinch rollers are turned off and stopped, and the power is turned off. However, the reel EMG is not detected in STILL/SLOW modes.	① The take-up reel pulse is not generated in the FWD transport modes (PLAY/FWD SEARCH/FF, etc.) because; 1) The idler gear is not meshed with the take-up reel gear; 2) The idler gear is meshed with the take-up reel gear, but incapable of winding due to too large mechanical load (abnormal tension); 3) The take-up reel sensor does not output the FG pulse. ② The supply reel pulse is not generated in the REV transport modes (REV SEARCH/REW, etc.) because; 1) The idler gear is not meshed with the supply reel gear. 2) The idler gear is meshed with the supply reel gear, but incapable of winding due to too large a mechanical load (abnormal tension); 3) The supply reel sensor does not output the FG pulse. ③ Power is not supplied to the reel sensors.
E04: Drum FG EMG	When the drum FG pulse has not been input for more than 3 seconds in the drum rotating mode, [E:04] is identified, the pinch rollers are turned off and stopped, and the power is turned off.	① The drum could not start or the drum rotation has stopped due to too large a load on the tape, because; 1) The tape tension is abnormally high; 2) The tape is damaged or a foreign object (grease, etc.) adheres to the tape. ② The drum FG pulse did not reach the System controller CPU because; 1) The signal circuit is disconnected in the middle; 2) The FG pulse generator (hall device) of the drum is faulty. ③ The drum control voltage (DRUM CTL V) is not supplied to the MDA. ④ Power is not supplied to the drum MDA.
E05: Cassette Eject EMG	When the eject operation does not complete in 3 seconds after the start, [E:05] is identified, the pinch rollers are turned off and stopped, and the power is turned off. When the cassette insertion operation does not complete in 3 seconds after the start, the cassette is ejected. In addition, when the operation does not complete within 3 seconds after the start, [E:05] is also identified and the power is turned off immediately.	① The cassette cannot be ejected due to a failure in the drive mechanism of the housing. ② When the housing load increases during ejection, the loading motor is stopped because of lack of headroom in its drive torque. □ Housing load increasing factors: Temperature environment (low temperature, etc.), mechanism wear or failure. ③ The sensor/switch for detecting the end of ejection are not functioning normally. ④ The loading motor drive voltage is lower than specified or power is not supplied to the motor (MDA). ⑤ When the user attempted to eject a cassette, a foreign object (or perhaps the user's hand) was caught in the opening of the housing.
E06: Capstan FG EMG	When the capstan FG pulse has not been generated for more than 1 second in the capstan rotating mode, [E:06] is identified, the pinch rollers are turned off and stopped, and the power is turned off.However, the capstan EMG is not detected in STILL/SLOW/FF/REW modes.	① The capstan could not start or the capstan rotation has stopped due to too large a load on the tape, because; 1) The tape tension is abnormally high (mechanical lock); 2) The tape is damaged or a foreign object (grease, etc.) is adhered to the tape (occurrence of tape entangling, etc.). ② The capstan FG pulse did not reach the System controller CPU because; 1) The signal circuit is disconnected in the middle; 2) The FG pulse generator (MR device) of the capstans is faulty. ③ The capstan control voltage (CAPSTAN CTL V) is not supplied to the MDA. ④ Power is not supplied to the capstan MDA.
E07: SW Power Short-Circuit EMG	When short-circuiting of the SW power supply with GND has lasted for 0.5 second or more, [E:07] is identified, all the motors are stopped and the power is turned off.	① The SW 5 V power supply circuit is shorted with GND. ② The SW 12 V power supply circuit is shorted with GND.
E08: DD Initialized (Absolute Position Sensor) EMG	When DD tilting does not complete in 4 seconds, [E:08] is identified, the tilt motor is stopped and the power is turned off.	① The absolute value sensor is defective. (The soldered parts have separated.) ② The pull-up resistor at the absolute sensor output is defective. (The soldered parts have separated.) ③ Contact failure or soldering failure of the pins of the connector (board-to-board) to the absolute value sensor. ④ The absolute value sensor data is not sent to the System Controller CPU.
E09: DD FG EMG	When the DD FG pulse is not generated within 2.5 seconds, [E:09] is identified, the tilt motor is stopped and the power is turned off.	① The FG sensor is defective. (The soldered parts have separated.) ② The pull-up resistor at the FG sensor output is defective. (The soldered parts have separated.) ③ Contact failure or soldering failure of the pins of the connector (board-to-board) to the FG sensor. ④ The power to the sensor is not supplied. (Connection failure/soldering failure) ⑤ The FG pulse is not sent to the System Controller CPU. ⑥ The tilt motor is defective. (The soldered parts have separated.) ⑦ The drive power to the tilt motor is not supplied. (Connection failure/soldering failure) ⑧ The tilt motor drive MDA - IC is defective. ⑨ Auto-recovery of the DD tilting cannot take place due to overrun.
E0A: Supply Reel Pulse EMG	When the supply reel pulse has not been generated for more than 10 seconds in the capstan rotating mode, [E:0A] is identified and the cassette is ejected (but the power is not turned off). However, note that the reel EMG is not detected in the SLOW/STILL mode.	① The supply reel pulse is not generated in the FWD transport mode (PLAY/FWD SEARCH/FF, etc.) because; 1) PLAY/FWD or SEARCH/FF is started while the tape in the inserted cassette is cut in the middle; 2) A mechanical factor caused tape slack inside and outside the supply reel side of the cassette shell. In this case, the supply reel will not rotate until the tape slack is removed by the FWD transport, so the pulse is not generated until then; 3) The FG pulse output from the supply reel sensor is absent. ② The take-up reel pulse is not generated in the REV transport mode (REV SEARCH/REW, etc.). 1) REV SEARCH/REW is started when the tape in the inserted cassette has been cut in the middle; 2) A mechanical factor caused tape slack inside and outside the take-up reel side of the cassette shell. In this case, the supply reel will not rotate until the tape slack is removed by the REV transport, so the pulse will not be generated until that time; 3) The FG pulse output from the take-up reel sensor is absent. ③ The power to a reel sensor is not supplied.
EU1: Head clog warning	Presupposing the presence of the control pulse output in the PLAY mode, when the value obtained by mixing the two V.FM output channels (without regard to the A.FM output) has remained below a certain threshold level for more than 10 seconds, [E:U1] is identified and recorded in the emergency history. During the period in which a head clog is detected, the FDP and OSD repeat the "3-second warning display" and "7-second noise picture display" alternately. EMG code : "E:U1" FDP : "U:01" OSD : "Try cleaning tape." The head clog warning is reset when the above-mentioned threshold has been exceeded for more than 2 seconds or the mode is changed to another mode than PLAY.	

Table 1-6-1

1.6.4 Emergency detail description

[FDP display] △△:□□:×× (Deck operation mode: Mechanism operation mode: Mechanism sensor information & mechanism mode position)

△△: Deck Operation Mode

△△	Deck Operation Mode
00	STOP with pinch roller pressure off (or tape present with P.OFF)
01	STOP with pinch roller pressure on
04	PLAY
0E	REC
11	Cassette ejected
22	FF
26	FWD SEARCH (variable speed) including x2-speed
2E	INSERT REC
43	REW
47	REV SEARCH (variable speed)
4C	AUDIO DUB
6E	INSERT REC (VIDEO + AUDIO)
84	FWD STILL/SLOW
85	REV STILL/SLOW
8F	REC PAUSE
AF	INSERT REC PAUSE
CD	AUDIO DUB PAUSE
EF	INSERT REC (VIDEO + AUDIO) PAUSE

Table 1-6-2

□□: Mechanism Operation Mode

□□	Mechanism Operation Mode
00	STOP with pinch roller pressure off
01	STOP with pinch roller pressure on
02	U/L STOP (or tape being loaded)
04	PLAY
05	PLAY (x1-speed playback using JOG)
0E	REC
11	Cassette ejected
22	FF
26	FWD SEARCH
2E	INSERT REC
43	REW
47	REV SEARCH
4C	AUDIO DUB
6E	INSERT REC (VIDEO + AUDIO)
84	FWD STILL/SLOW
85	REV STILL/SLOW
8F	REC PAUSE
AF	INSERT REC PAUSE
C7	REV SEARCH (x1-speed reverse playback using JOG)
CD	AUDIO DUB PAUSE
EF	INSERT REC (VIDEO + AUDIO) PAUSE
F0	Mechanism being initialized
F1	POWER OFF as a result of EMG

Table 1-6-3

× – : Mechanism Sensor Information

×–	Mechanism Sensor Information			
	CASS SW	REC SAFETY SW	START SENSOR	END SENSOR
0-	ON (Cassette present)	OFF (Tab broken)	ON	ON
1-	ON (Cassette present)	OFF (Tab broken)	ON	OFF
2-	ON (Cassette present)	OFF (Tab broken)	OFF	ON
3-	ON (Cassette present)	OFF (Tab broken)	OFF	OFF
4-	ON (Cassette present)	ON (Tab present)	ON	ON
5-	ON (Cassette present)	ON (Tab present)	ON	OFF
6-	ON (Cassette present)	ON (Tab present)	OFF	ON
7-	ON (Cassette present)	ON (Tab present)	OFF	OFF
8-	OFF (Cassette absent)	OFF (Tab broken)	ON	ON
9-	OFF (Cassette absent)	OFF (Tab broken)	ON	OFF
A-	OFF (Cassette absent)	OFF (Tab broken)	OFF	ON
B-	OFF (Cassette absent)	OFF (Tab broken)	OFF	OFF
C-	OFF (Cassette absent)	ON (Tab present)	ON	ON
D-	OFF (Cassette absent)	ON (Tab present)	ON	OFF
E-	OFF (Cassette absent)	ON (Tab present)	OFF	ON
F-	OFF (Cassette absent)	ON (Tab present)	OFF	OFF

Table 1-6-4

– × : Mechanism Mode Position

– ×	Mechanism Mode Position
-0	Tape being loaded/unloaded (When the pole base is located on the rear side of the position just beside the drum)
-1	Tape being loaded/unloaded (When the pole base is located on the front side of the position jist beside the drum)
-2	STOP with pinch roller pressure off
-3	REV,REV STILL/SLOW position
-4	EJECT position, U/L STOP position
-5	FWD, FWD STILL/SLOW position
-6	FF/REW position
-7	Intermediate position during transition between other mechanism modes
NOTE: *As the display is always "-7" at any intermediate position between mechanism mode, the position of transitory emergency may sometimes not be locatable.*	

Table 1-6-5

< Mechanism mode >

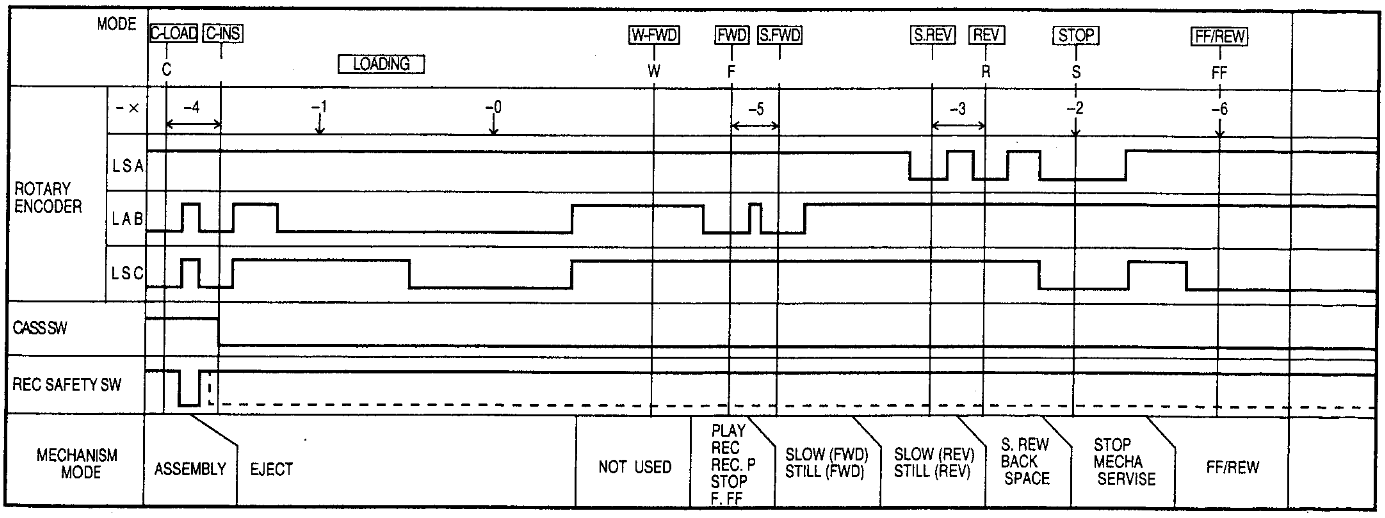

MODE
C-LOAD
C-INS
LOADING
W-FWD
FWD
S.FWD
S.REV
REV
STOP
FF/REW
C
W
F
R
S
FF
ROTARY ENCODER
– ×
-4
-1
-0
-5
-3
-2
-6
LSA
LAB
LSC
CASS SW
REC SAFETY SW
MECHANISM MODE
ASSEMBLY
EJECT
NOT USED
PLAY
REC
REC. P
STOP
F. FF
SLOW (FWD)
STILL (FWD)
SLOW (REV)
STILL (REV)
S. REW
BACK
SPACE
STOP
MECHA
SERVISE
FF/REW

Table 1-6-6

1.7 SYSCON CIRCUIT

1.7.1 Syscon CPU pin function (IC3001)

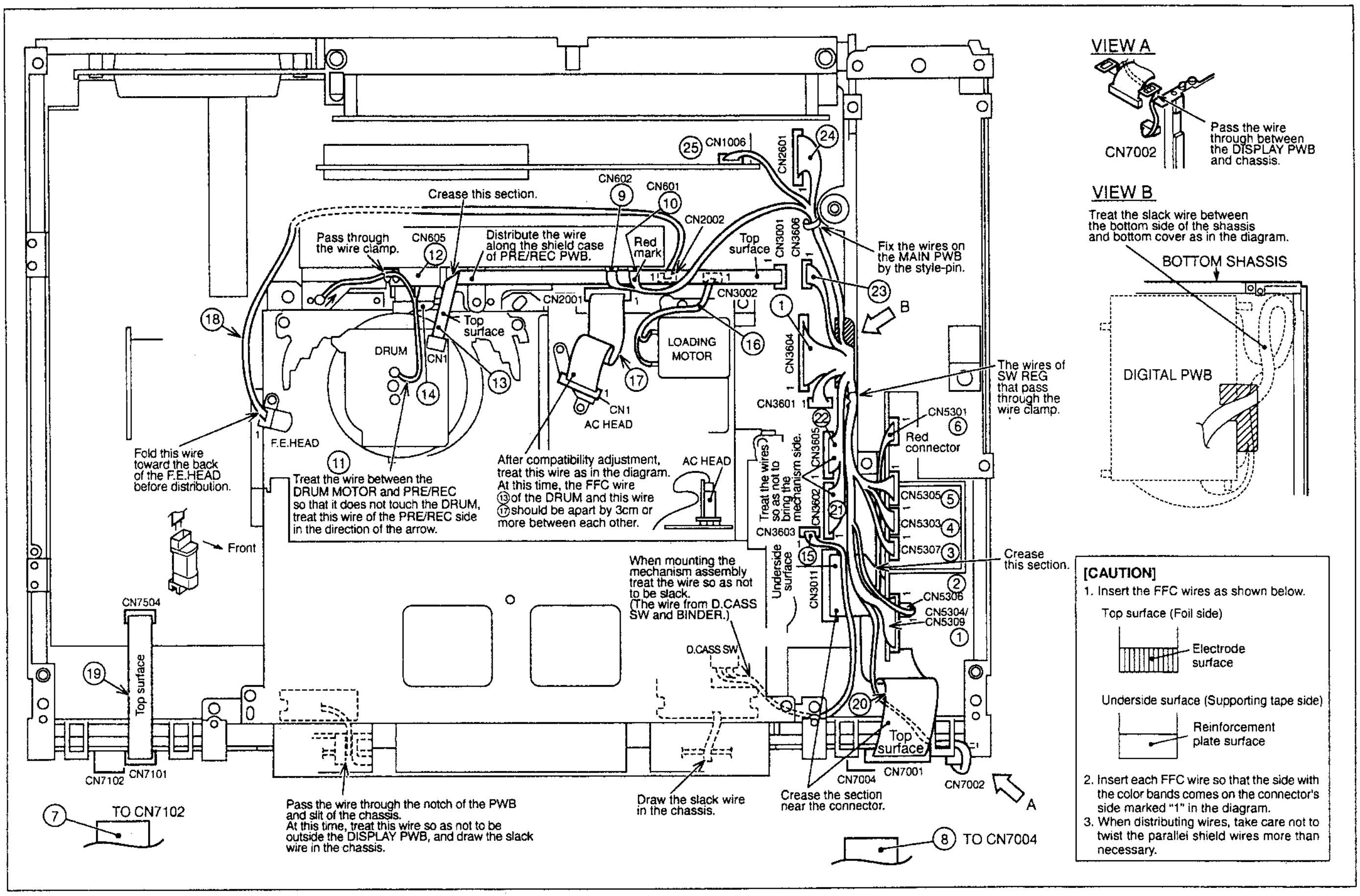
PIN NO.	LABEL	IN/OUT	FUNCTION
1	CTL(+)	IN	CTL(+) SIGNAL
2	SVSS	-	GND
3	CTL(–)	IN	CTL(–) SIGNAL
4	CTLBIAS	-	CTL BIAS VOLTAGE
5	CTLFB	IN	CTL PULSE FEEDBACK
6	CTLAMPOUT	OUT	CTL PULSE OUTPUT
7	CTLSMTIN	IN	CTL PULSE INPUT
8	CFG	IN	CAPSTAN FG PULSE INPUT
9	SVCC	-	SYSTEM POWER
10	AVCC	-	SYSTEM POWER FOR ANALOG CIRCUIT
11	NORM/MESEC/S	IN	SVHS MODE:H
12	SECAM DET/KILLER OUT	-	NC
13	VIDEO ENV	IN	AUTO TRACKING DETECT/INPUT THE AVERAGE OF PLAYBACK VIDEO SIGNAL
14	START SENSOR	IN	START SENSOR
15	END SENSOR	IN	END SENSOR
16	IND(L)	IN	AUDIO INPUT (LCH) FOR THE FDP AUDIO INDICATOR
17	IND(R)	IN	AUDIO INPUT(RCH) FOR THE FDP AUDIO INDICATOR
18	WA_DET,SCR_ID	IN	SCRAMBLECONTROL INPUT(SCRAMBLE:H)
19	D.ENV/HS1.ENV	IN	ENV.(D OR HS1) INPUT
20	BS ANT/AFC	IN	TUNING CLOCK
21	LED/RF AGC	IN	NC/CHANGES IN ATS+IC OUTPUT AS CAUSED BY CHANGES IN RECEIVER SENSITIVITY WHEN THE SAME CHANNEL IS RECEIVED MORE THAN ONCE ARE INPUT.
22	A.ENV/ND(L),HS2.ENV	IN	ENV.(A OR HS2) INPUT
23	AVSS	-	GND FOR ANALOG CIRCUIT
24	TU CE	OUT	CHIP ENABLE OF THE TUNER UNIT
25	LSA	IN	MECHANISM MODE DETECT(A)
26	LSB	IN	MECHANISM MODE DETECT(B)
27	LSC	IN	MECHANISM MODE DETECT(C)
28	CAP REV(L)	OUT	CAPSTAN MOTOR REVERSE CONTROL (FWD:H/REV:L)
29	RC	IN	REMOTE CONTROL DATA INPUT
30	R.PAUSE/COMPU IN	IN	REMOTE PAUSE CONTROL
31	P50_IN/P.SAVE(L)	IN	CONTROL SIGNAL FOR TV LINK/NC
32	LMC3	OUT	LOADING MOTOR DRIVE(3)
33	P50 OUT/COMPUOUT	OUT	CONTROL SIGNAL FOR TV LINK
34	OSD_CS	OUT	CHIP SELECT FOR THE ON SCREEN IC
35	LMC1	OUT	LOADING MOTOR DRIVE(1)
36	SUB_BUZY	IN	DATA TRANSMISSION CONTROL SIGNAL INPUT
37	P.CTL(H)	OUT	CONTROL SIGNAL FOR SWITCHING POWER SUPPLY
38	SB G(PWM)	OUT	VOLTAGE CONTROL SIGNAL FOR VIDEO FREQUENCY RESPONSE
39	STB/TEST	OUT	STROBE SIGNAL (FOR FDP DRIVER)
40	POWER DET	IN	DETECTION SIGNAL FOR POWER DOWN OF AC POWER SUPPLY
41	REC SAFETY	IN	REC SAFETY SWITCH DETECT (SW ON:L)
42	PROTECT	IN	DETECTION SIGNAL FOR SW POWER SUPPLY
43	VSS	-	GND
44	RMO,BIL_SEL,PERI1S/FRONT_YC(H)	IN	INPUT FOR THE TERMINAL SLIDE SW POSI IN THE SAT MODE/NC
45	VCC	-	SYSTEM POWER
46	HOST_DATA_IN	IN	D-VHS HOST CPU DATA INPUT
47	HOST_DATA_OUT	OUT	D-VHS HOST CPU DATA OUTPUT
48	HOST_SCLK	OUT	DATA TRANSFER CLOCK FOR HOST CPU
49	I2C DATA	IN/OUT	SERIAL DATA TRANSFER OUTPUT FOR THE ON-SCREEN IC
50	I2C CLK	OUT	SERIAL DATA TRANSFER CLOCK FOR THE ON-SCREEN IC
51	S.DATA TOSYS	IN	SERIAL DATA TRANSFER OUTPUT FROM THE ON-SCREEN IC TO THE FDP DRIVER
52	S.DATA FRSYS	OUT	SERIAL DATA TRANSFER OUTPUT FROM THE FDP DRIVER TO THE ON-SCREEN IC
53	S.CLK	OUT	SERIAL DATA TRANSMISSION CLOCK FROM THE FDP DRIVER TO THE ON-SCREEN IC
54	SP FG	IN	DETECTION SIGNAL FOR SUPPLY REEL ROTATION/TAPE REMAIN
55	TU FG	IN	DETECTION SIGNAL FOR TAKE-UP REEL ROTATION/TAPE REMAIN
56	EDS(H),BIT_IN(H)	-	NC

Table 1-7-1 SYSCON CPU pin function(1/2)

PIN NO.	LABEL	IN/OUT	FUNCTION
57	LCM2	OUT	LOADING MOTOR DRIVE(2)
58	JUST_CLK,LOCK(L)	IN	TUNING PLL LOCK DETECT:L
59	HOST_BUSY	I/O	D-VHS HOST CPU BUSY
60	TU CLK	OUT	CLOCK FOR DATA TRANSFER TO THE TUNER UNIT
61	TU DATA	OUT	TUNING DATA
62	FWE	-	NC
63	NMI(L)	-	NC
64	X2	-	TIMER CLOCK (32.768KHz)
65	X1	-	TIMER CLOCK (32.768KHz)
66	RES(L)	-	RESET TERMINAL (RESET ON:L)
67	OSC1(IN)	-	MAIN SYSTEM CLOCK(10MHz)
68	VSS	-	GND
69	OSC2(OUT)	-	MAIN SYSTEM CLOCK(10MHz)
70	VCC	-	SYSTEM POWER
71	MODE	-	NC
72	SUB_CS	OUT	CHIP SELECT FOR THE SUB CPU
73	TU V MUTE(H)	OUT	TUNER VIDEO CONTROL (MUTE:H)
74	A.MUTE(H)	OUT	AUDIO MUTE CONTROL (MUTE:H)
75	I2C CLK2	OUT	SERIAL DATA TRANSFER CLOCK FOR MEMORY IC
76	I2C DATA2	IN/OUT	SERIAL DATA TRANSFER OUTPUT FOR MEMORY IC
77	CH1_RECST(H)	OUT	REC START CONTROL FOR CH1
78	CH2_RECST(H)	OUT	REC START CONTROL FOR CH2
79	HOST_CS	OUT	CHIP SELECT
80	V.P.CTL	OUT	V.PULSE CONTROL, V COMPENSATION DURING SPECIAL PLAYBACK
81	ANT_CTL(L)/EDS_CS,SECAM(H)	-	NC
82	VCC	-	SYSTEM POWER
83	SLOW_P/AT_ON	OUT	MEMORY TIMING CONTROL
84	VSS	-	GND
85	SP SHORT(H)	OUT	MODE SELECT
86	LP SHORT(H)	OUT	MODE SELECT
87	FLY_ON(H)	OUT	REC TIMING CONTROL(FLY ERASE ON:H)
88	A.REC ST(H)	OUT	HIFI AUDIO SOUND RECORDING START
89	TRICK(H)	OUT	SPECIAL PB:H
90	REF30	IN	REFERENCE SIGNAL INPUT(30Hz)
91	REF5	IN	REFERENCE SIGNAL INPUT(5Hz)
92	CTL360	OUT	NOT USED
93	REC_AREA	OUT	D-VHS REC AREA CTL (STD MODE: H/LS3 MODE: ⎍_⎍)
94	JSA	IN	INPUT FOR THE JOG SHUTTLE
95	SUB_RESET	OUT	RESET SUB CPU
96	SYNC_DET(H)	IN	DETECTION OF VIDEO SYNC SIGNAL (DETECTED:H)
97	JSB	IN	INPUT FOR THE JOG SHUTTLE
98	C.SYNC	IN	COMPOSITE SYNC
99	A.FF/HS2_FF	OUT	HEAD SWITCHING CONTROL
100	D.FF/STD_FF/HS1_FF	OUT	HEAD SWITCHING CONTROL
101	CAPPWM	OUT	CAPSTAN MOTOR CONTROL
102	DRUMPWM	OUT	DRUM MOTOR CONTROL
103	HOST_RESET	OUT	RESET FOR THE HOST CPU
104	HS_RECST(H)	-	NC
105	CASS_SW	IN	CASS IN DETECT(C.IN:L)
106	CTL30	IN	NOT USED
107	DPG	IN	DRUM PICKUP PULSE INPUT (SWITCHING PULSE)
108	DFG	IN	DRUM FG PULSE INPUT
109	VCC	-	SYSTEM POWER
110	V.PULSE	OUT	V.PULSE ADDITION TIMING CONTROL
111	VSS	-	GND
112	CTLREF	-	CTL REFERENCE VOLTAGE

Table 1-7-2 SYSCON CPU pin function(2/2)

1.8 CONNECTOR (WIRE) CONNECTIONS


VIEW A
CN7002
VIEW B
BOTTOM SHASSIS
DIGITAL PWB
CN1006
CN2601
CN602
CN601
CN2002
CN3001
CN3606
CN605
Red mark
Top surface
CN2001
CN3002
DRUM
CN1
LOADING MOTOR
CN3604
CN3601
CN1
AC HEAD
F.E.HEAD
AC HEAD
CN3605
CN3602
CN3603
Underside surface
CN3011
CN5301
Red connector
CN5305
CN5303
CN5307
CN5306
CN5304/
CN5309
D.CASS SW
CN7504
Top surface
Front
CN7102
CN7101
Top surface
CN7004
CN7001
CN7002
A
B
TO CN7102
TO CN7004
①
②
③
④
⑤
⑥
⑦
⑧
⑨
⑩
⑪
⑫
⑬
⑭
⑮
⑯
⑰
⑱
⑲
⑳
㉑
㉒
㉓
㉔
㉕
Electrode surface
Reinforcement plate surface

Pass the wire through between the DISPLAY PWB and chassis.

Treat the slack wire between the bottom side of the shassis and bottom cover as in the diagram.

Crease this section.

Pass through the wire clamp.

Distribute the wire along the shield case of PRE/REC PWB.

Fix the wires on the MAIN PWB by the style-pin.

The wires of SW REG that pass through the wire clamp.

Fold this wire toward the back of the F.E.HEAD before distribution.

⑪ Treat the wire between the DRUM MOTOR and PRE/REC so that it does not touch the DRUM, treat this wire of the PRE/REC side in the direction of the arrow.

After compatibility adjustment, treat this wire as in the diagram. At this time, the FFC wire ⑬ of the DRUM and this wire ⑰ should be apart by 3cm or more between each other.

Treat the wires so as not to bring the mechanism side.

When mounting the mechanism assembly treat the wire so as not to be slack. (The wire from D.CASS SW and BINDER.)

Crease this section.

Pass the wire through the notch of the PWB and slit of the chassis. At this time, treat this wire so as not to be outside the DISPLAY PWB, and draw the slack wire in the chassis.

Draw the slack wire in the chassis.

Crease the section near the connector.

[CAUTION]

1. Insert the FFC wires as shown below.

   Top surface (Foil side)

   Underside surface (Supporting tape side)

2. Insert each FFC wire so that the side with the color bands comes on the connector's side marked "1" in the diagram.
3. When distributing wires, take care not to twist the parallel shield wires more than necessary.

Fig. 1-8-1

Wire No.	Symbol	Connection					Pin No.	Type	Fig.No.
		Connected point			Connected point				
①	WR2a	SW REG	CN5304/CN5309	⇔	MAIN	CN3604	11	WIRE	D2
②	WR2b	SW REG	CN5306	⇔	DIGITAL	CN9601	3	WIRE	D2
③	WR2c	SW REG	CN5307	⇔	DIGITAL	CN9602	4	WIRE	D2
④	WR2d	SW REG	CN5303	⇔	MAIN	CN3601	5	WIRE	D2
⑤	WR2e	SW REG	CN5305	⇔	DIGITAL	CN9603	6	WIRE	D2
⑥	WR2f	SW REG	CN5301	⇔	DISPLAY	CN7002	5	WIRE	D2
⑦	WR3a	ACK	CN7102	⇔	DOOR		12	FFC	D3a
⑧	WR3b	DISPLAY	CN7004	⇔	DOOR		22	FFC	D3a
⑨	WR3c	SHAFT(R)		⇔	DOOR		1	GND WIRE	D3b
⑩	WR4a	PRE/REC	CN602	⇔	DIGITAL	CN8001	1	COAXIAL WIRE	D4
⑪	WR4b	PRE/REC	CN601	⇔	DIGITAL	CN8002	1	COAXIAL WIRE	D4
⑫	WR4c	PRE/REC		⇔	STATOR		1	GND WIRE	D4
⑬	WR4d	PRE/REC	CN605	⇔	DRUM		7	FPC	D4
–	–	PRE/REC	CN603	⇔	MAIN	CN606	9	BOARD TO BOARD	D4
–	–	PRE/REC	CN604	⇔	MAIN	CN607	10	BOARD TO BOARD	D4
⑭	WR5a	STATOR	CN1	⇔	MAIN	CN3001	5	FFC	D5
⑮	WR5b	MAIN	CN1	⇔	DRUM		8	FPC	D5
⑯	WR6	MAIN	CN3603	⇔	CASSETTE HOUSING		4	WIRE	D6a
⑰	WR7a	MAIN	CN3002	⇔	LOADING MOTOR		2	PARA RIBON WIRE	D7
⑱	WR7b	A/C HEAD	CN1	⇔	MAIN	CN2001	7	PARA RIBON WIRE	D7
⑲	WR7c	FE HEAD		⇔	MAIN	CN2002	2	PARA RIBON WIRE	D7
–	–	CAPSTAN MOTOR		⇔	MAIN	CN3003	8	BOARD TO BOARD	D7
–	–	ROTARY ENCODER		⇔	MAIN	CN3004	5	BOARD TO BOARD	D7
⑳	WR8a	JACK	CN7101	⇔	MAIN	CN7504	8	FFC	D8
㉑	WR8b	DISPLAY	CN7001	⇔	MAIN	CN3011	22	FFC	D8
㉒	WR8c	MAIN	CN3602	⇔	DIGITAL	CN9001	9	WIRE	D8
㉓	WR8d	MAIN	CN3605	⇔	DIGITAL	CN9003	7	WIRE	D8
㉔	WR8e	MAIN	CN3606	⇔	DIGITAL	CN9002	4	WIRE	D8
㉕	WR8f	MAIN	CN2601	⇔	DIGITAL	CN9801	9	WIRE	D8
㉖	WR8g	3D SVHS	CN1006	⇔	DIGITAL	CN8601	6	WIRE	D8
–	–	DISPLAY	CN7003	⇔	JACK	CN7103	4	BOARD TO BOARD	D9
–	–	DISPLAY	FW	⇔	REC SAFETY	FW	2	PARA RIBON WIRE	D9
–	–	DISPLAY	FW	⇔	CASS.SW	FW	3	PARA RIBON WIRE	D9

Table 1-8-1

1.9 TECHNICAL INFORMATION

1.9.1 Servicing the video navigation function

1. Introduction

The video navigation function is to record data to the built-in FLASH memory of the main unit. At the same time a reference number is wrote on the tape for control purposes. Therefore, the FLASH memory and the tape (self-recorded tape) form a related pair. If the FLASH memory or the board assembly (in which the FLASH memory is included) is replaced, the video navigation function will not operate. In this case, it is required to copy the video navigation data in the original FLASH memory into the FLASH memory of the unit which the navigation function is available.

2. Copying the video navigation data

Note: *When copying the video navigation data, initialization of the FLASH memory of the master unit is required.*

(1) Connection diagram

Note: *Connect the JLIP cable to each "J Terminal".*
JLIP Cable (Parts No. : QAM0129-001 or PEAC0453)

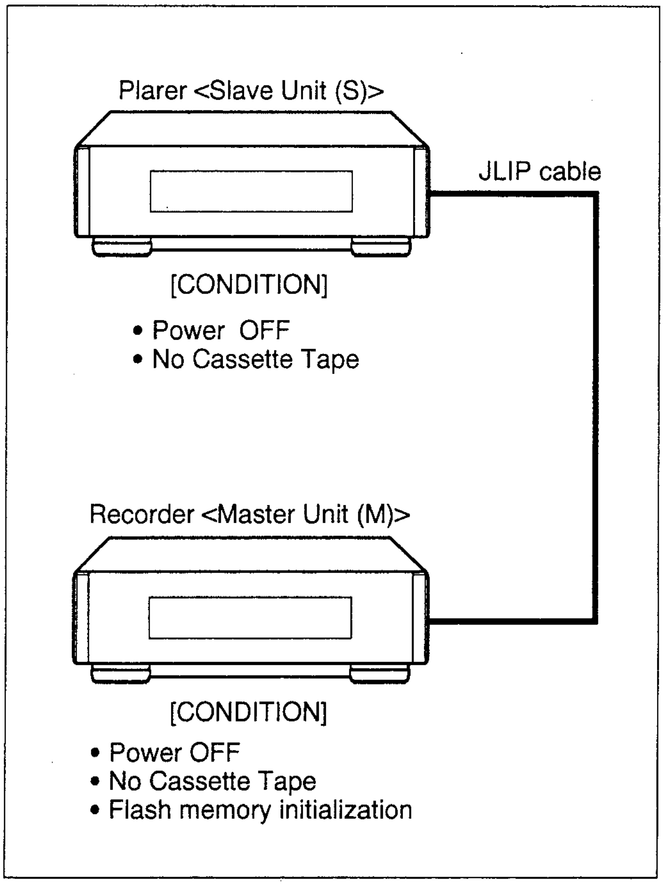


Fig. 1-9-1 Connection diagram

(2) Operation procedure

① Turn [OFF] the power of the 2 units (slave and master) VCR and set it without a tape.
Then initialize the FLASH memory of the master unit.

② Press the [PLAY] button of the slave unit for 7 seconds. When the copy mode is set, [1] will be displayed on the FDP.

Note: *To cancel the copy mode, press the [PLAY] button of the slave unit, then the copy mode of the slave unit will be cancelled.*

FDP : 1 (S)

③ Press the [PAUSE] button of the master unit for 7 seconds. When the copy mode is set, [2] will be displayed on the FDP.

Note: *To cancel the copy mode, press the [PAUSE] button of the master unit, then the copy mode of the master unit will be cancelled.*

FDP : 2 (M)

④ Press the [STOP] button of the master unit.
When copying is started, [3] will be displayed on the FDP and when copying is completed the FDP display changes from [3] to [4].
When an error occurs during the copying process, [5] will be displayed on the FDP. During such an occurrence the slave unit FDP display is [1].

FDP : 1 (S)

FDP : 3 (M)

<Completed>
FDP : 4 (M)

<Error>
FDP : 5 (M)

⑤ Press the [STOP] button of the master unit.
The copy mode of the master and the slave unit will be cancelled simultaneously.

3. Erasing the video navigation data (Initialization)

Note: *This is the service mode to erase all the video navigation data inside the FLASH memory. When a unit is replaced or after an operations check, erase the data which is not required while observe the TV screen. Please take note that after being erased, data cannot be restored, therefore care must be exercised.*

(1) Operation procedure

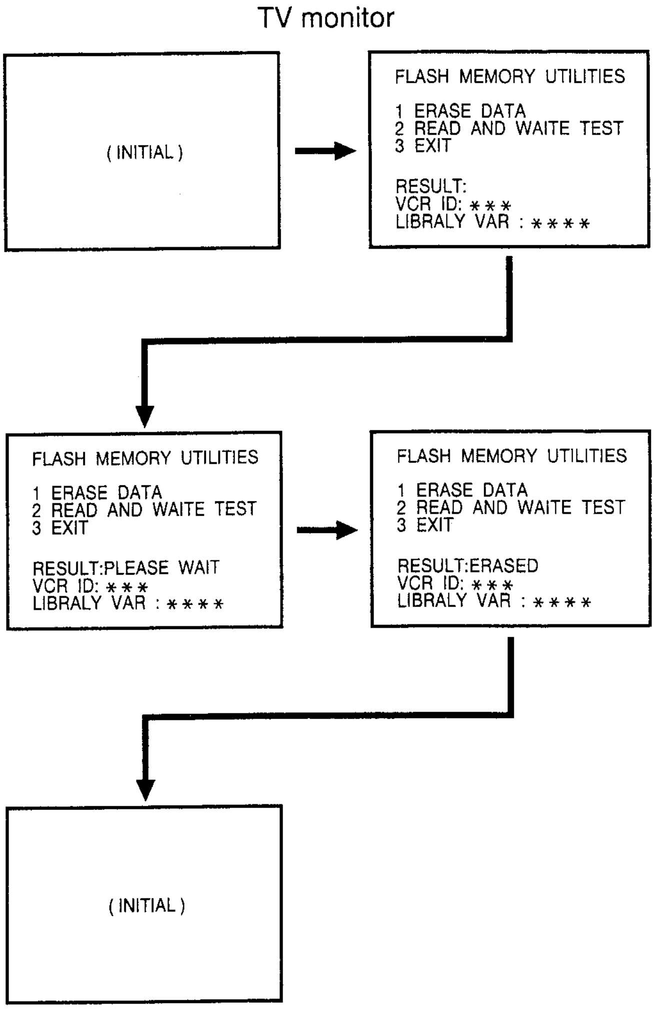
① Turn ON the power.

② Transmit code [F8] from the Jig RCU.
Then the [FLASH MEMORY UTILITIES] screen is displayed.

③ Transmit code [21] from the Jig RCU.
Select [1. ERASE], then ERASE starts. During erase [PLEASE WAIT] is displayed and when erase is completed [ERASED] will be displayed.

④ Transmit code [23] from the Jig RCU, then the mode is cancelled.

TV monitor



```
( INITIAL )
```

```
FLASH MEMORY UTILITIES

1 ERASE DATA
2 READ AND WAITE TEST
3 EXIT

RESULT:
VCR ID: ＊＊＊
LIBRALY VAR : ＊＊＊＊
```

```
FLASH MEMORY UTILITIES

1 ERASE DATA
2 READ AND WAITE TEST
3 EXIT

RESULT:PLEASE WAIT
VCR ID: ＊＊＊
LIBRALY VAR : ＊＊＊＊
```

```
FLASH MEMORY UTILITIES

1 ERASE DATA
2 READ AND WAITE TEST
3 EXIT

RESULT:ERASED
VCR ID: ＊＊＊
LIBRALY VAR : ＊＊＊＊
```

```
( INITIAL )
```

1.9.2 Factory setting level during shipment

Note: *After shipment from the factory, this is the service mode to return the rewritten EEPROM data to the factory setting level [FACTORY RESET].*
When this operation is executed, all users' setting contents will return to the factory setting level, therefore care must be exercised.

1. Insert a cassette tape.
2. Transmit code [6F] from the Jig RCU
3. After a setting is completed, the tape is automatically ejected.

SECTION 2
MECHANISM ADJUSTMENT

2.1 PREPARATION

2.1.1 Precautions

(1) Disconnect VCR from AC power before soldering.

(2) Avoid imparting stress to wires when disengaging connectors.

(3) Determine and correct the cause of difficulty before proceeding to adjustments.Do not disturb settings unnecessarily.

(4) Use care not to damage tabs,claws,etc during repairs.

(5) Install the cassette housing assembly only when the mechanism is in the MECHANISM ASSEMBLING MODE position. (See 2.4.2.)

(6) When reattaching the front panel assembly, make sure that the door opener of the cassette housing assembly is lowered in position prior to the reinstallation. (See SECTION 1 DISASSEMBLY.)

2.1.2 Check without cassette housing assembly

Mechanism operations can be observed easily by removing the cassette housing assembly. Use the MECHANISM SERVICE MODE. (See SECTION 1 DISASSEMBLY.)

2.1.3 Manual removal of loaded tape

When the deck enters the emergency mode with cassette tape loaded and it can not be ejected by pressing the EJECT button,take out of the cassette tape according to the following procedure.

(1) Disconnect the power cord from AC outlet then take out the Top cover and Front panel assembly.

(2) Turn the loading motor on the Mechanism assembly by hand in the unloading direction to where the pole base assembly (supply and take up) is positioned below the cassette tape.At that time, pay careful attention to the tape not to get soiled with grease.

(3) Take out 4 screws of the cassette housing assembly.(See SECTION 1 DISASSEMBLY.)

(4) Remove the cassette housing with slackened tape and guard panel of cassette.

(5) Wind up the tape by turning the reel hub(either supply or take up side for convenience) from the bottom of the cassette,and remove the cassette tape.

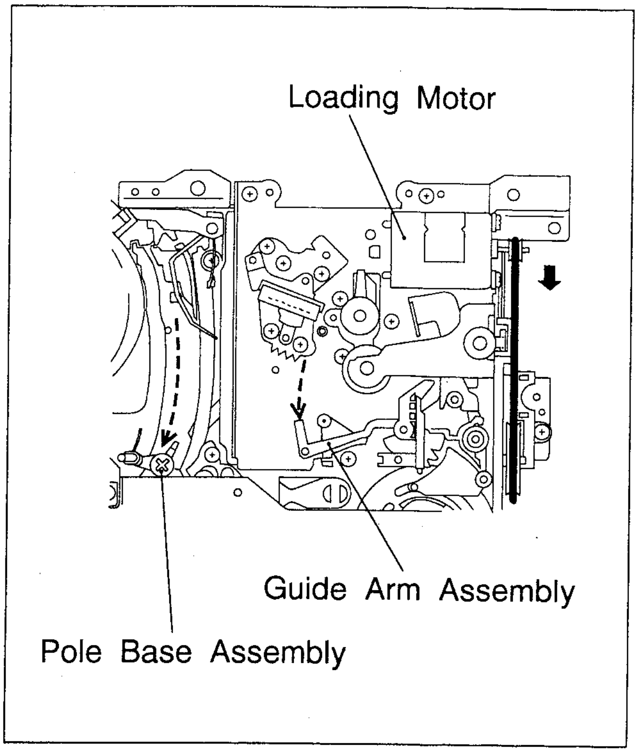


Fig. 2-1-1

2.1.4 Test Equipment

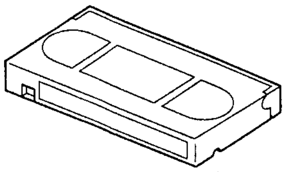
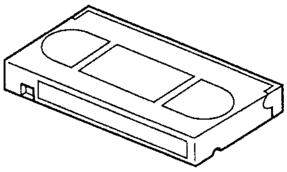
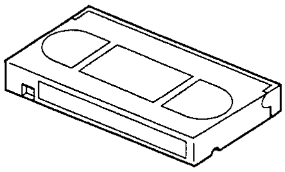
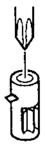
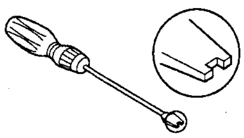
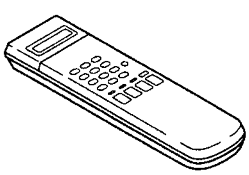
Alignment tape (SP) MHPE	Alignment tape (LP) MHPE-L	Back tension cassette gauge PUJ48076-2	A/C head positioning tool PTU94010
			
Roller driver PTU94002	Jig RCU PTU94023B		
			

Table 2-1-1 Test equipment

2.2 MAIN MECHANISM PARTS

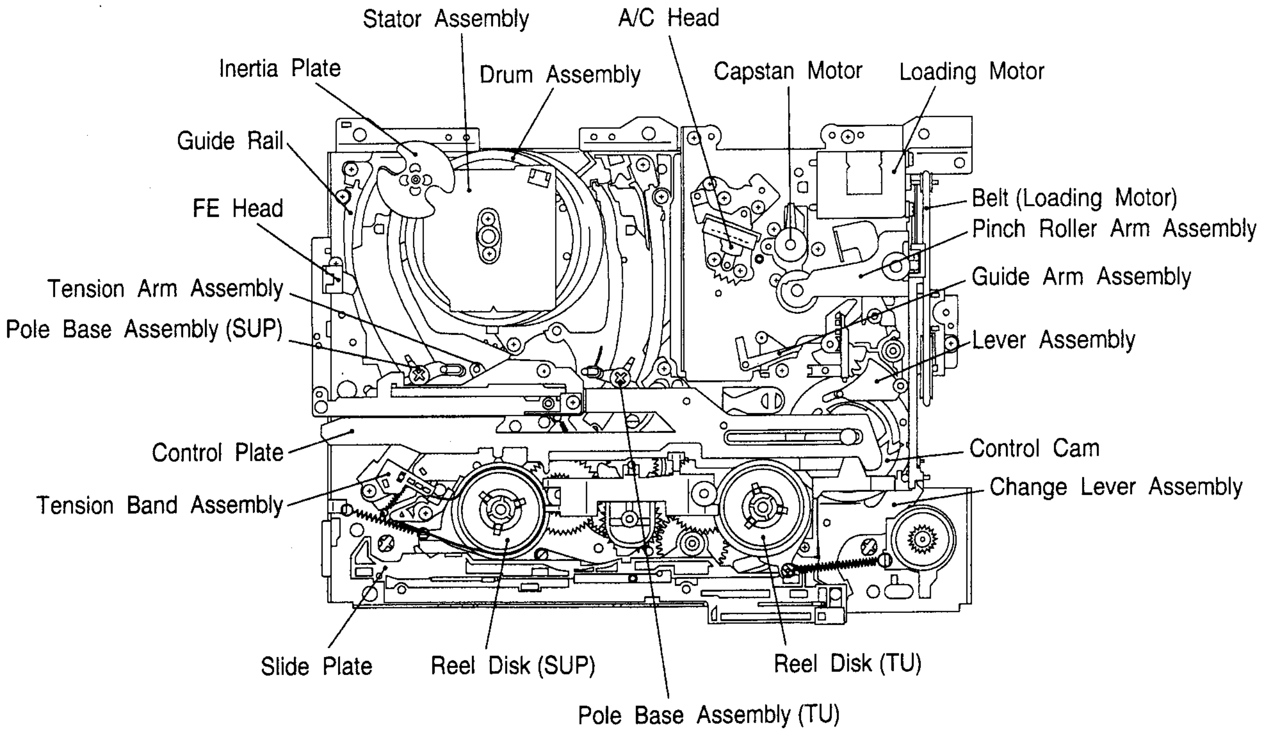

Stator Assembly
A/C Head
Inertia Plate
Drum Assembly
Capstan Motor
Loading Motor
Guide Rail
FE Head
Tension Arm Assembly
Pole Base Assembly (SUP)
Belt (Loading Motor)
Pinch Roller Arm Assembly
Guide Arm Assembly
Lever Assembly
Control Plate
Tension Band Assembly
Control Cam
Change Lever Assembly
Slide Plate
Reel Disk (SUP)
Reel Disk (TU)
Pole Base Assembly (TU)

Fig. 2-2-1 Top view of mechanism

2.2.1 Cleaning

Periodic cleaning of the tape transport system is desirable,but usually not feasible in practice.Therefore,perform cleaning when a set is brought in for repairs or maintenance. Contamination of the video heads,tape guides and brush can detract from playback picture quality and in extreme cases,even damage the tape.For cleaning,use a finemesh cotton cloth(about the texture of a white dress-shirt) moistened in alcohol. It is recomended to also clean the tape tension posts and capstan.

- To clean the video heads,press the moistened cloth gently against the upper drum with fingertip and turn the drum by hand.
- Do not use a vertical stroke,as this may damage the heads.

2.2.2 Lubrication

With no need for periodical lubrication, you have only to lubricate new parts after replacement. If any oil or grease on contact parts is soiled, wipe it off and newly lubricate the parts.

(1) See the mechanism assembly and disassembly diagrams (M4) for the lubricating or greasing spots. See Table 2-2-1 for the types of oil or grease to be used.

Type	Name	Serial No.	Symbols on the disassembly diagrams
Grease	Maltemp SH-P	KYODO-SH-P	AA
Oil	Cosmohydro HV56	COSMO-HV56	BB

Table 2-2-1 Grease and oil used for the unit

(2) Grease is not required for a replacement cassette housing assembly,as this has been applied at the factory.

NOTE : *Stir grease that has been stored for an extended period.*

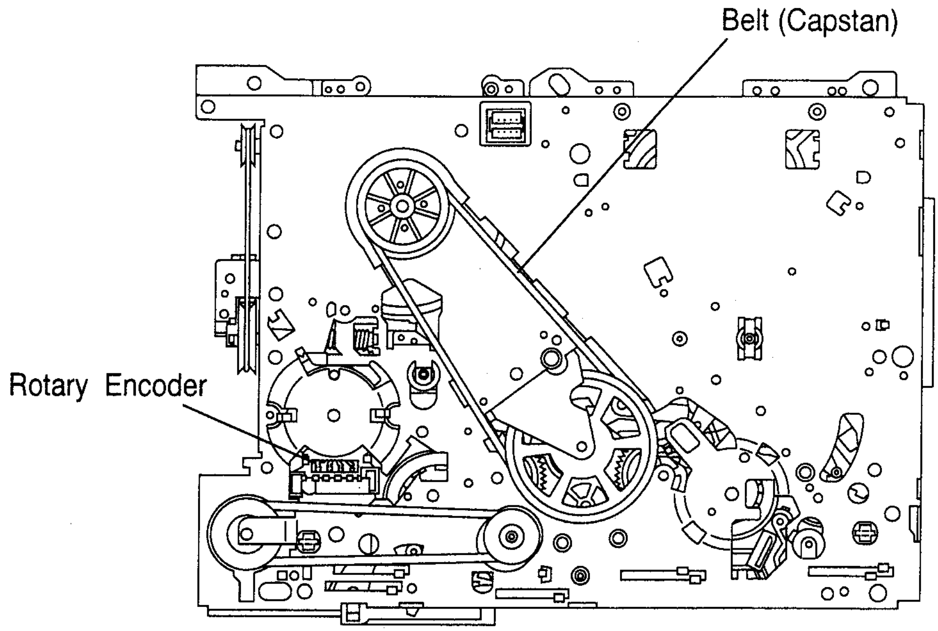


Fig. 2-2-2 Bottom view of mechanism

2.3 INSPECTION AND MAINTENANCE

This product employs rotary and moving parts which wear out in the course of usage.Periodic inspection, cleaning, lubrication and maintenance are therefore important for ensuring maximum performance. Worn parts must also be replaced as and when required.

2.3.1 Suggested servicing schedule for main components

The following table indicates the suggested period for such service measures as cleaning,lubrication and replacement. In practice, the indicated periods will vary widely according to environmental and usage conditions.However, the indicated components should be inspected when a set is brought for service and the maintenance work performed if necessary. Also note that rubber parts may deform in time,even if the set is not used.

System	Parts Name	Operation Hours	
		~1000H	~2000H
Tape transport	Drum assembly	★○	○
	A/C head	★○	★○
	Lower drum motor assembly	★	★○
	Pinch roller arm assembly	★	★
	Full erase head	★	★
	Tension arm assembly	★	★
	Guide arm assembly	★	★
Drive	Capstan motor		○
	Belt (Capstan)	○	○
	Belt (Loading motor)		○
	Loading motor		○
	Reel disk (supply, take up)		○
	Clutch unit (supply, take up)		○
	Worm gear assembly		○
	Control plate		○
	Slide plate		○
Other	Brush	★○	★○
	Tension band assembly	○	○
	Rotary encoder		○

★ : Cleaning
○ : Inspection or Replacement if necessary

Table 2-3-1

2.4 DISASSEMBLY/ASSEMBLY PROCEDURE OF MECHANISM

2.4.1 Precaution before disassembling mechanism

This mechanism has an exclusive operation mode provided for disassembling and installation of the mechanism (MECHANISM ASSEMBLING MODE), and it is suggested to set the mechanism to this mode before disassembly and installation.The exclusive mechanism operation mode is not generally used and becomes available by manual setting only. Then this procedure starts with the condition that the cabinet parts and cassette housing assembly have been removed.

2.4.2 How to set the exclusive mechanism operation mode (MECHANISM ASSEMBLING MODE)

(1) Turn the loading motor belt by hand.
(2) Confirm that the hole of the control cam are aligned to the deck hole as shown in Fig.2-4-1.

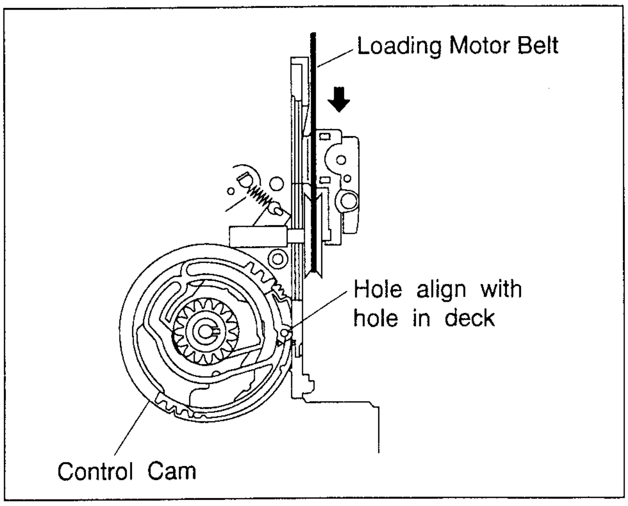


Fig. 2-4-1

2.5 MAIN PARTS REPLACEMENT OF MECHANISM

2.5.1 Pinch Roller Arm Assembly

(1) Remove the slit washer.
(2) Lift the pinch roller arm assembly, and pull out it while pushing the pinch plate toward outside.

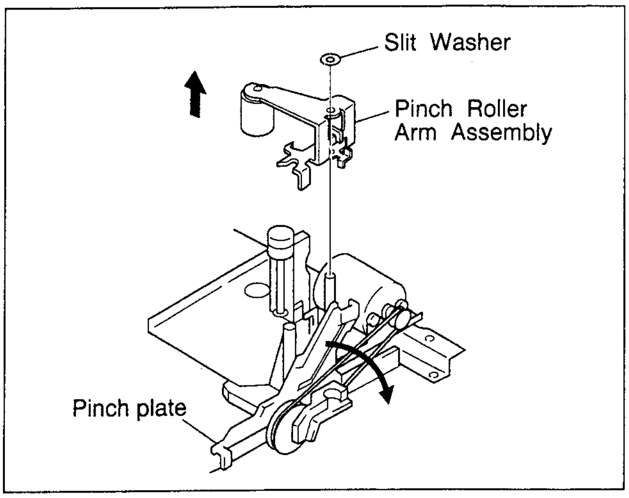


Fig.2-5-1

2.5.2 A/C Head

1. Removal

(1) Take out the 2 screws (A).

(2) Remove the A/C head with head base.

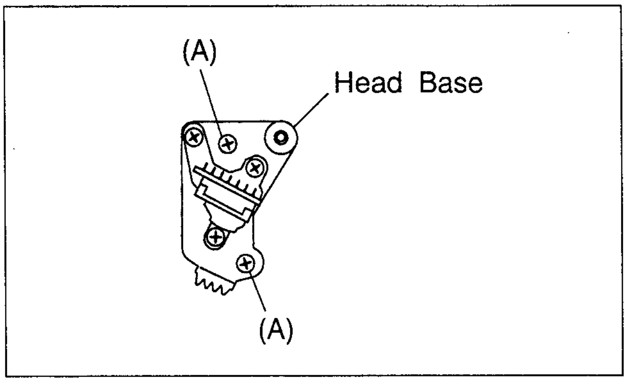

(A)
Head Base
(A)

Fig.2-5-2

(3) When replacing the A/C head only,remove the 3 screws (B), use care not to misplace the 3 springs.

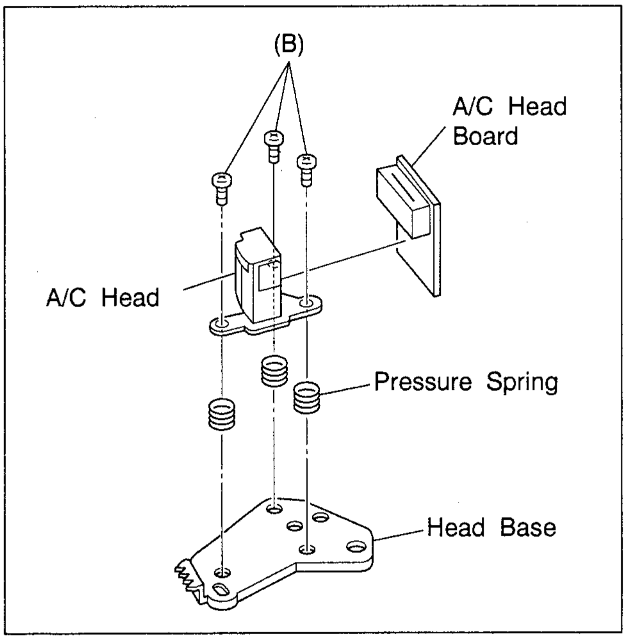

(B)
A/C Head Board
A/C Head
Pressure Spring
Head Base

Fig.2-5-3

2. Installation

(1) Temporarily set the A/C head height as indicated in Fig. 2-5-4.

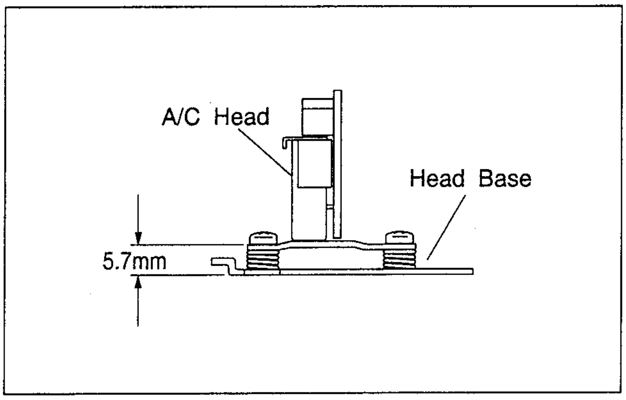

A/C Head
Head Base
5.7mm

Fig.2-5-4

NOTES:

- *It is very important to correctly adjust the control pulse and audio signal in addition to the mechanical tape path.*
- *Perform compatibility adjustments after electrical adjustments.*

2.5.3 Pinch Plate

1. Removal

(1) Disengage the 2 claws, then remove the pinch plate.

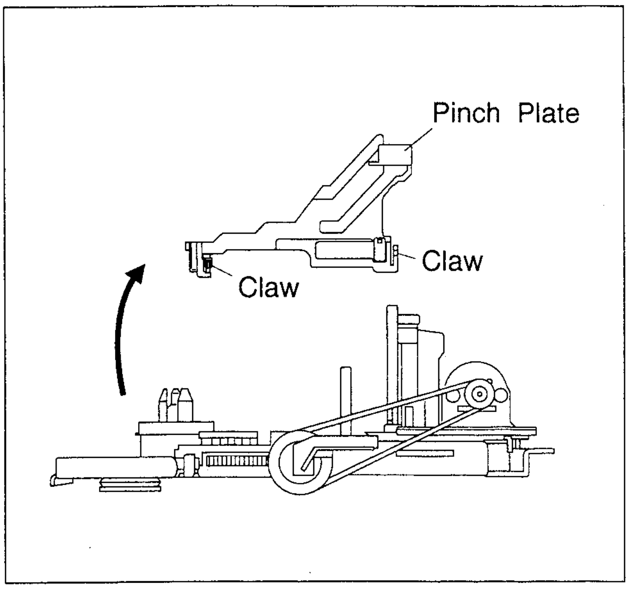

Pinch Plate
Claw
Claw

Fig.2-5-5

2. Installation

(1) When installing the pinch plate,align rack of the pinch plate and triangle mark of the control cam as indicated in Fig.2-5-6.

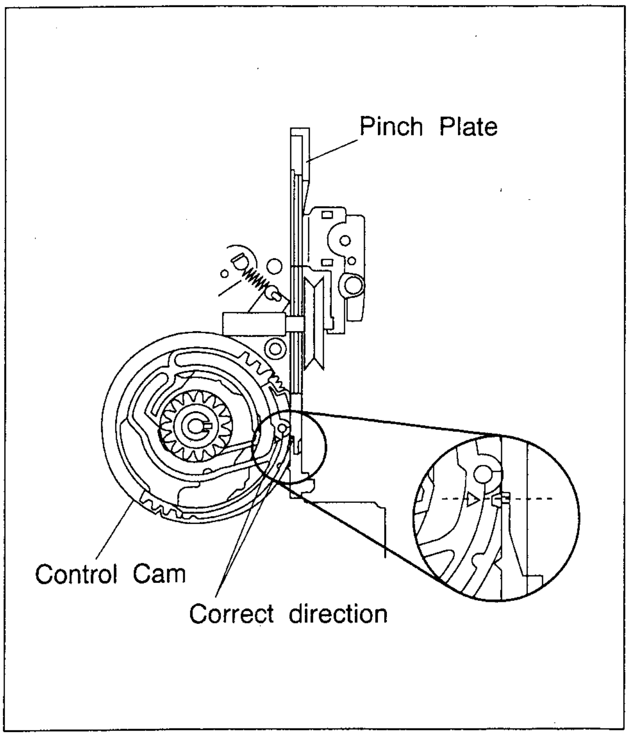

Pinch Plate
Control Cam
Correct direction

Fig. 2-5-6

2.5.4 Loading Motor

(1) Remove the belt from the worm gear assembly.

(2) Take out the 2 screws (A) and then remove the loading motor.

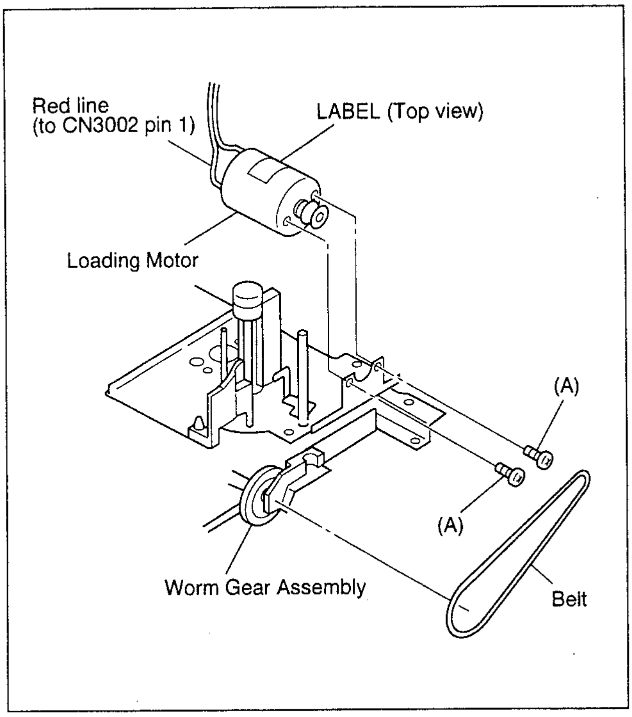

Red line
(to CN3002 pin 1)
LABEL (Top view)
Loading Motor
(A)
(A)
Worm Gear Assembly
Belt

Fig.2-5-7

NOTE: *When installing the loading motor, hold it so that the label faces upward. Also take care with the wire colors.*

2.5.5 Lever Assembly, Sub Deck Assembly, Capstan Motor

(1) First remove the belt from the rear side (capstans) of the mechanism assembly.

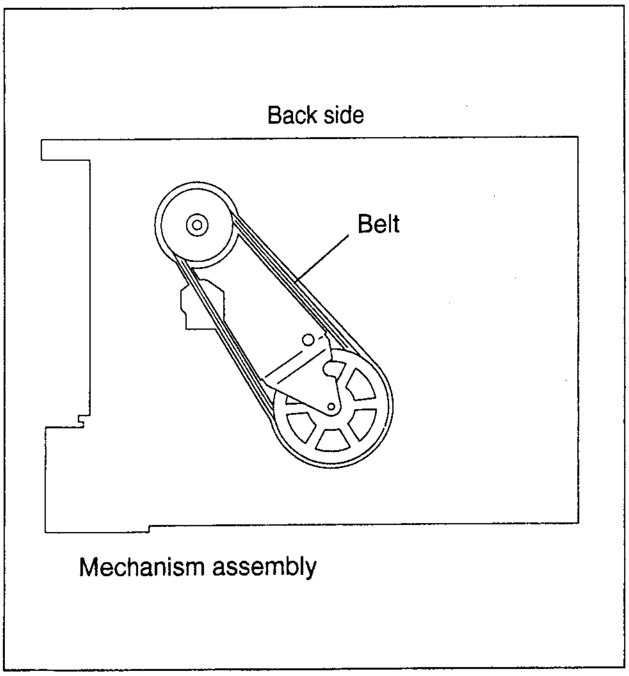

Back side
Belt
Mechanism assembly

Fig.2-5-8

(2) Take out the slit washer, then remove the lever assembly.

(3) Take out the 3 screws (A), then remove the capstan motor and sub deck assembly together.

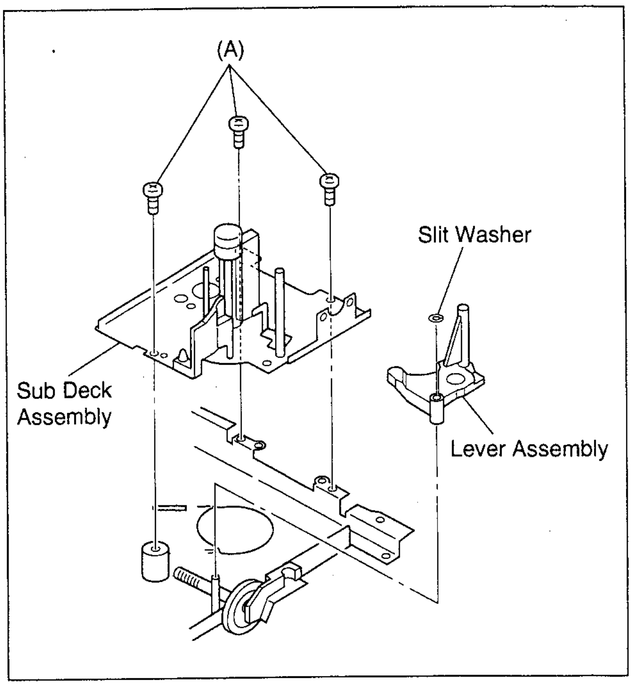

(A)
Slit Washer
Sub Deck Assembly
Lever Assembly

Fig.2-5-9

(4) Take out the 3 screws (B), then remove the capstan motor from the sub deck assembly.

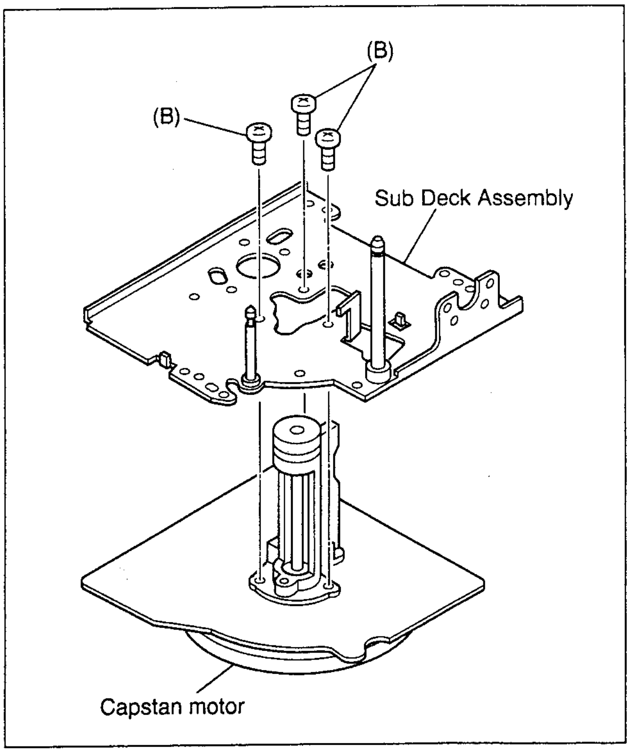

(B)
(B)
Sub Deck Assembly
Capstan motor

Fig.2-5-10

NOTE: *Before removing the capstan brake assembly, it is required to first remove the worm gear assembly and the control cam.*

2.5.6 Control Bracket

(1) Take out the screw (A) and screw (B).
(2) Remove the control bracket.

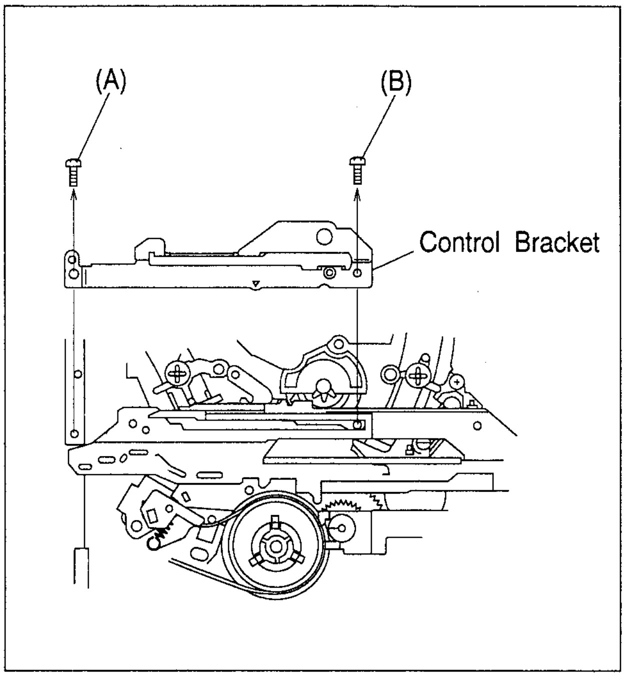

(A)
(B)
Control Bracket

Fig.2-5-11

2.5.7 Reel Disk (Take up)

(1) Take out the slit washer.
(2) Remove the reel disk (take up).

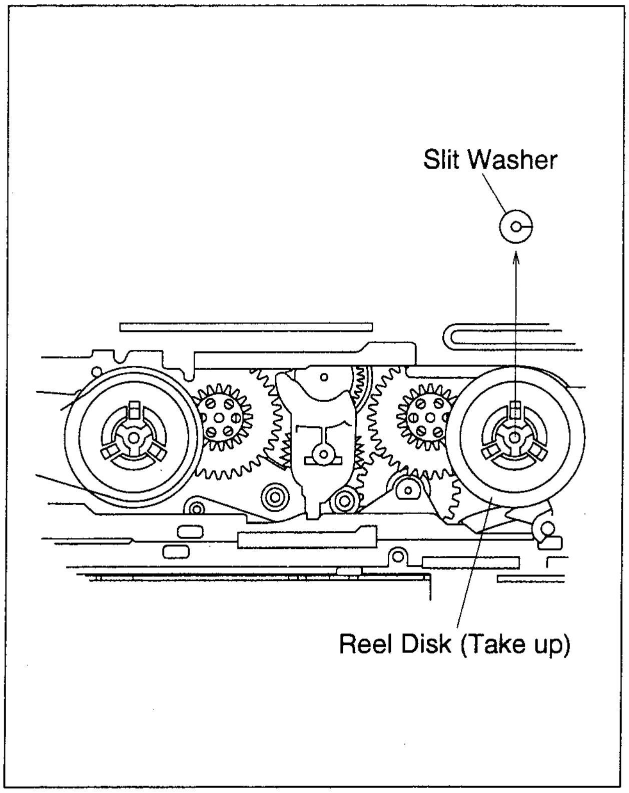

Slit Washer
Reel Disk (Take up)

Fig.2-5-12

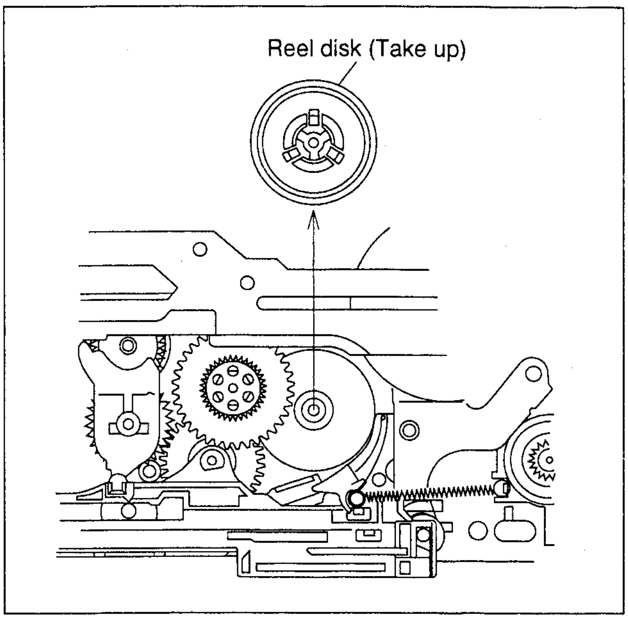

Reel disk (Take up)

Fig.2-5-13

2.5.8 Control Plate

(1) Take out the slit washer, disengage the 2 hooks while lifting the control cam side of the control plate, and remove the control plate.

NOTE 1 : *After removing the control plate, be careful not to turn the mechanism assembly upside down. Otherwise, parts such as the idler lever and clutch unit (take up) may slip out.*

NOTE 2 : *After removing the control plate, the parts shown in the following figure can be removed. The encircled numbers indicate the removal sequence.*

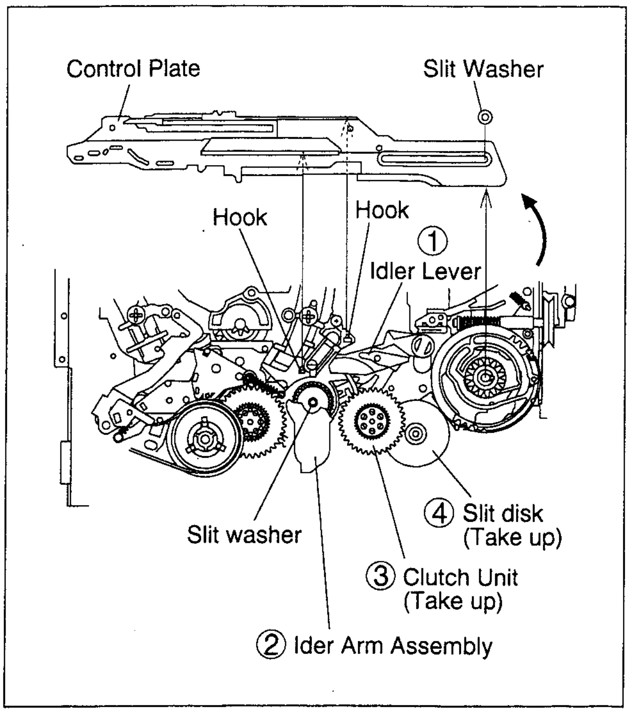

Control Plate
Slit Washer
Hook
Hook
① Idler Lever
Slit washer
④ Slit disk (Take up)
③ Clutch Unit (Take up)
② Ider Arm Assembly

Fig.2-5-14

2.5.9 Sub Brake Assembly (Take up), Control Cam

(1) Disengage the spring of the sub brake assembly (take up) and, while pushing the hook in the direction of the arrow, remove the sub brake assembly (take up) upward.

(2) While pushing the claw in the disengaging direction, remove the control cam.

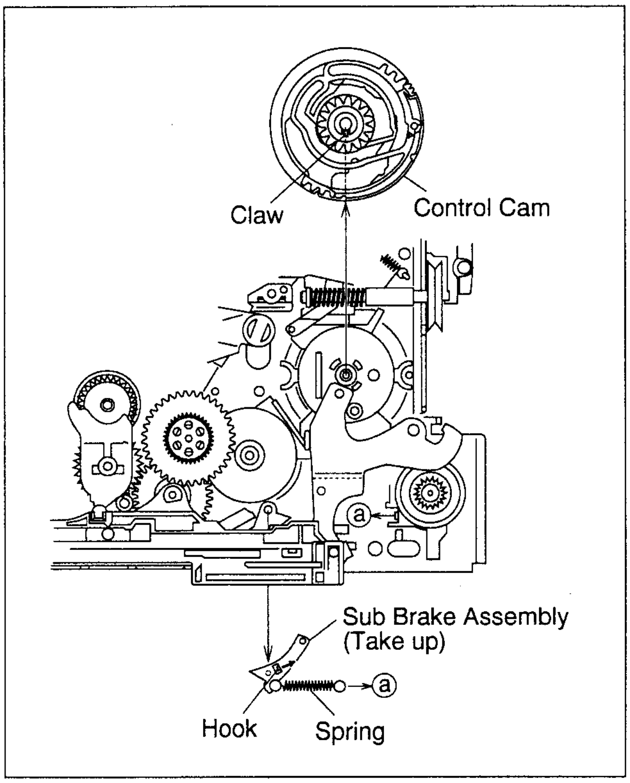

Claw
Control Cam
Sub Brake Assembly
(Take up)
a
a
Hook
Spring

Fig.2-5-15

2.5.10 Slide Plate

(1) Disengage the 7 claws on the back side of the mechanism assembly by following the order from the claw on one end to that on the opposite end, then remove the slide plate.

NOTE: *After removing the slide plate, it is possible to remove the main brake assembly (take up) and the change arm assembly.*

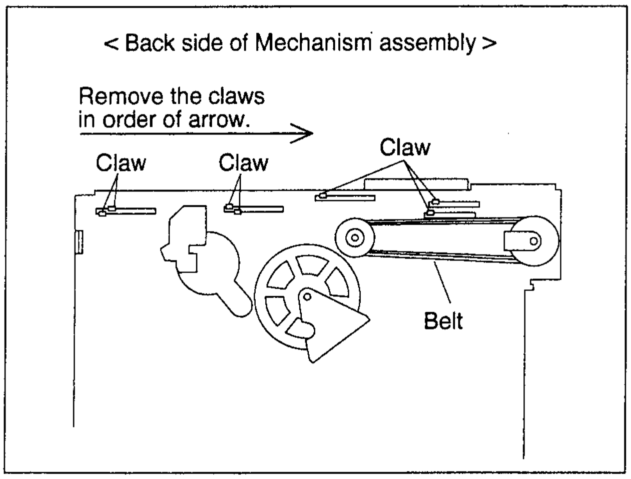

< Back side of Mechanism assembly >
Remove the claws
in order of arrow.
Claw
Claw
Claw
Belt

Fig. 2-5-16

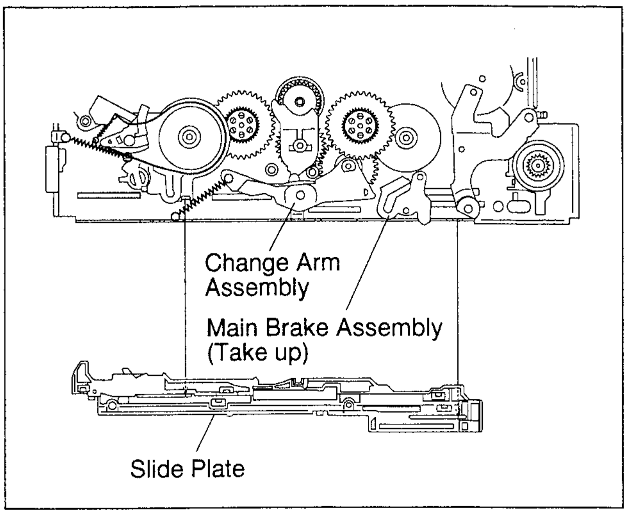

Change Arm
Assembly
Main Brake Assembly
(Take up)
Slide Plate

Fig. 2-5-17

2.5.11 Change Lever Assembly, Rotary Encoder

(1) Slide the change lever assembly in the direction of the arrow and remove.

(2) While pushing the claws on both sides in the disengaging directions, take out the rotary encoder.

(3) When attaching the rotary encoder, position it so that the alignment markings face each other as shown in Fig. 2-5-18, then attach the rotary encoder.

NOTE 1: *Before removing the change lever assembly, it is required to remove the belt (Fig. 2-5-16).*

NOTE 2: *Take care of the cassette gear, which is disengaged at the same time as the change lever assembly is removed.*

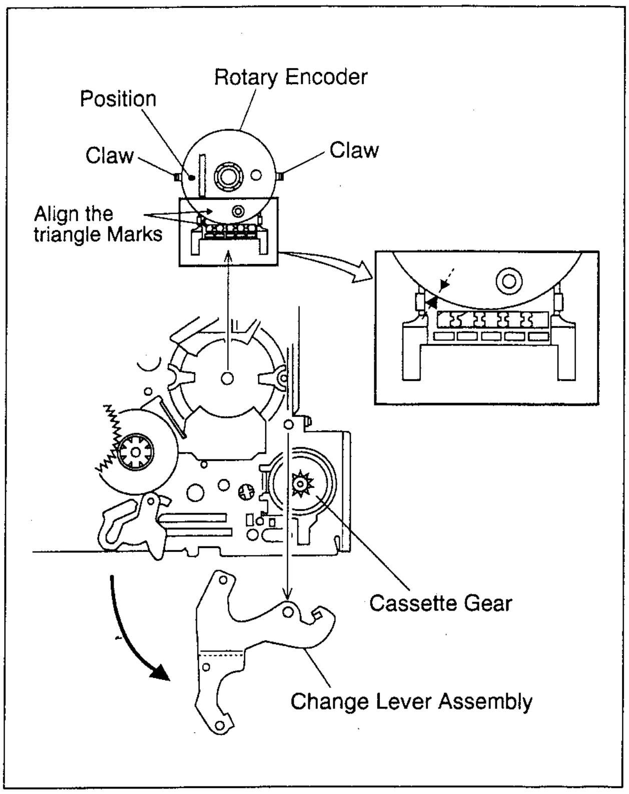

Rotary Encoder
Position
Claw
Claw
Align the
triangle Marks
Cassette Gear
Change Lever Assembly

Fig. 2-5-18

2.5.12 Tension Arm Assembly, Tension Band Assembly, Reel Disk Assembly (Supply), Sub Brake Assembly (Supply), Clutch Unit (Supply), Take up Lever

(1) Disengage spring ⓐ of the sub brake assembly (supply) from the hook.
(2) Disengage the spring ⓒ from the hook.
(3) Take out the slit washer, and remove the tension arm assembly. Also remove the tension band assembly by disengaging the claw.
(4) Take out the slit washer, and remove the reel disk assembly (supply).
(5) While pushing the claw in the disengaging direction, remove the sub brake assembly (supply).
(6) Remove the clutch unit (supply).
(7) Remove the take up lever assembly.

NOTE 1: *When attaching the tension arm assembly, be sure to adjust the phase of the tension arm lever.*

NOTE 2: *After removing the clutch unit (supply), it is possible to remove the slit disk (supply) and the main brake assembly (supply).*

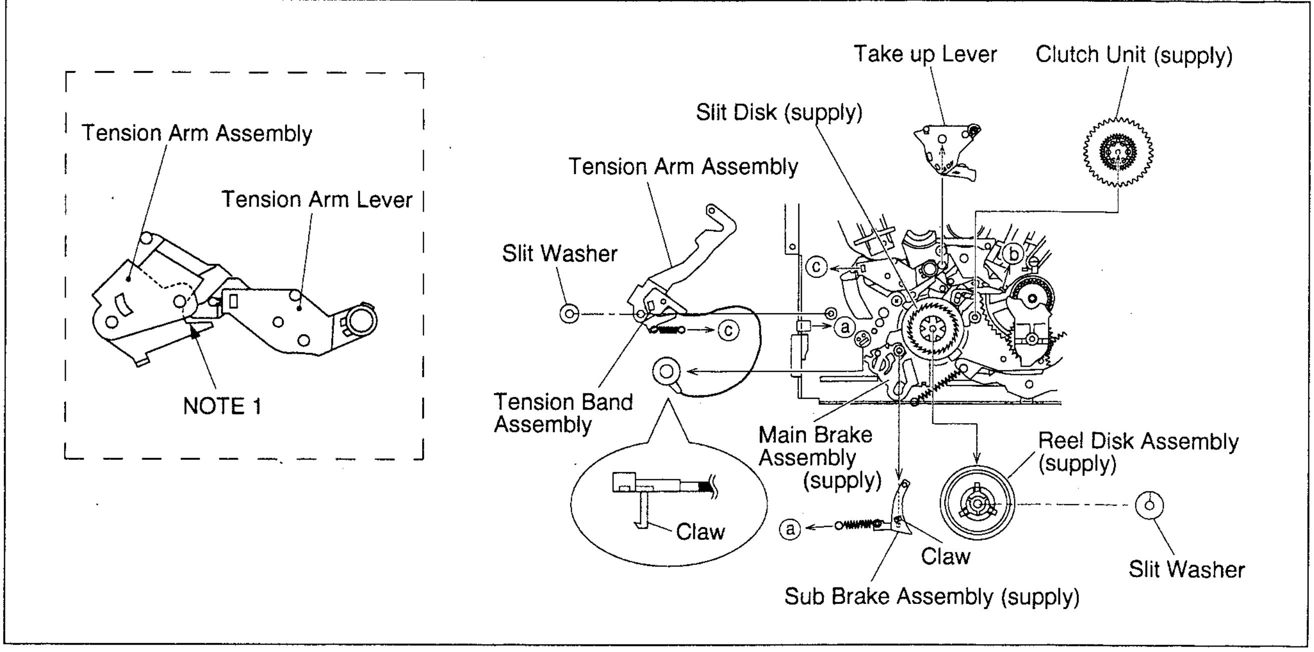

Tension Arm Assembly
Tension Arm Lever
NOTE 1
Take up Lever
Clutch Unit (supply)
Slit Disk (supply)
Tension Arm Assembly
Slit Washer
ⓒ
ⓑ
ⓐ
ⓒ
Tension Band Assembly
Claw
Main Brake Assembly (supply)
Reel Disk Assembly (supply)
ⓐ
Claw
Slit Washer
Sub Brake Assembly (supply)

Fig. 2-5-19

2.5.13 Take up Head, Tension Arm Lever

(1) Remove the take up head and tension arm lever.

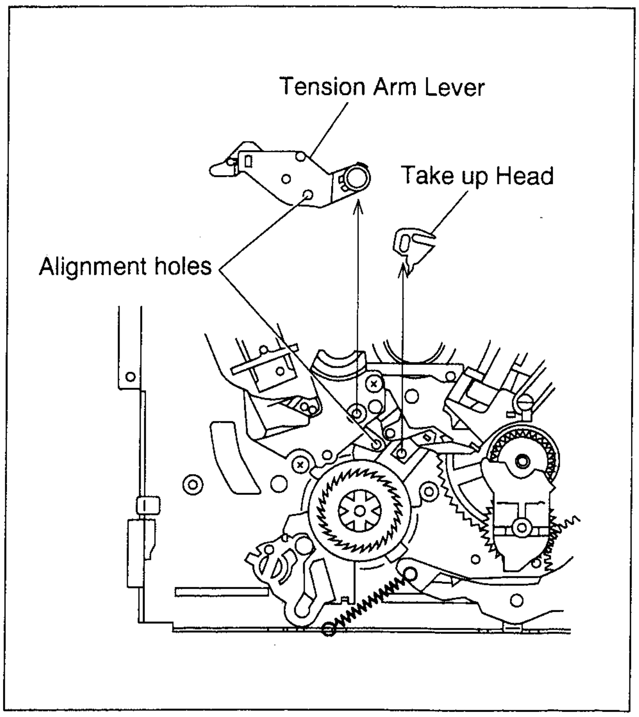

Tension Arm Lever
Take up Head
Alignment holes

Fig.2-5-20

2.5.14 Guide Rail

(1) Take out the 5 screws (A) and 1 screw (B).
(2) By expanding the rails on the outer sides of the guide rail, remove the 2 pole base assemblies (supply, take up).
(3) Disengage the 4 claws and remove the guide rail.

NOTE : *Before removing the guide rail, it is required to remove the drum assembly.*

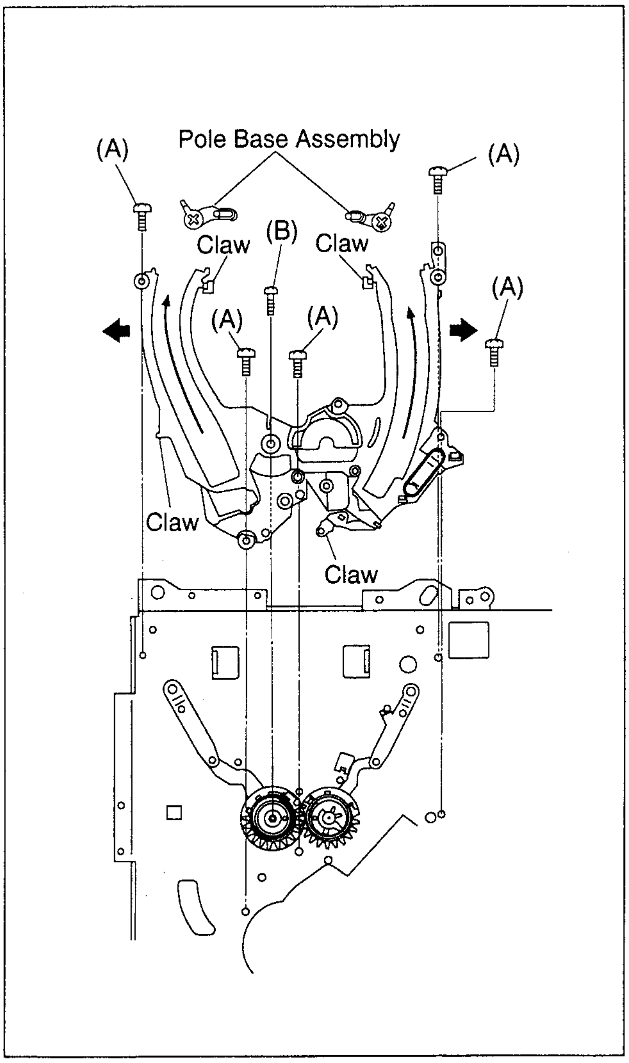

(A)
Pole Base Assembly
(A)
Claw
(B)
Claw
(A)
(A)
(A)
Claw
Claw

Fig. 2-5-21

2.5.15 Stator Assembly

(1) Unplug the flat cable.
(2) Take out the 2 screws (A).
(3) Remove the stator assembly by lifting it in the direction of the arrow (straight upward).

NOTE 1: *Be careful not to lose the brush and spring.*
NOTE 2: *After attaching, always perform "3.2.1 PB SWITCHING POINT ADJUSTMENT" in "ELECTRICAL ADJUSTMENTS".*

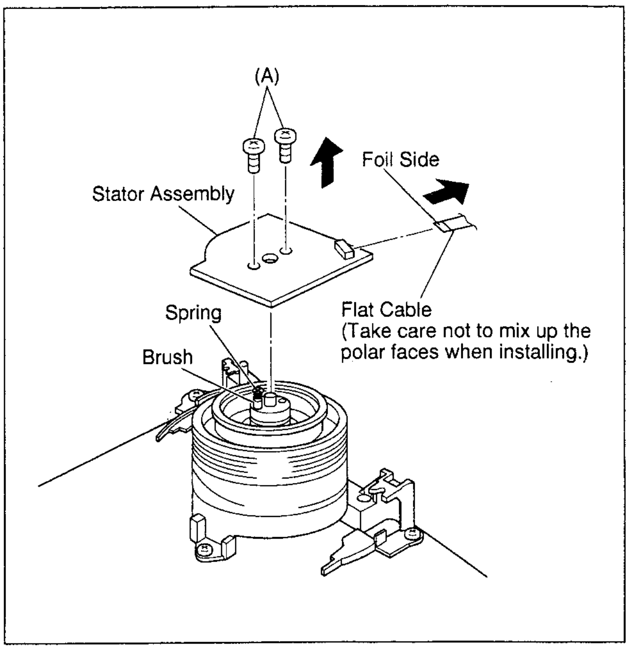

(A)
Foil Side
Stator Assembly
Spring
Brush
Flat Cable
(Take care not to mix up the polar faces when installing.)

Fig. 2-5-22

2.5.16 Rotor Assembly

(1) Remove the stator assembly.
(2) Take out the 2 screws (B) and then remove the rotor assembly.

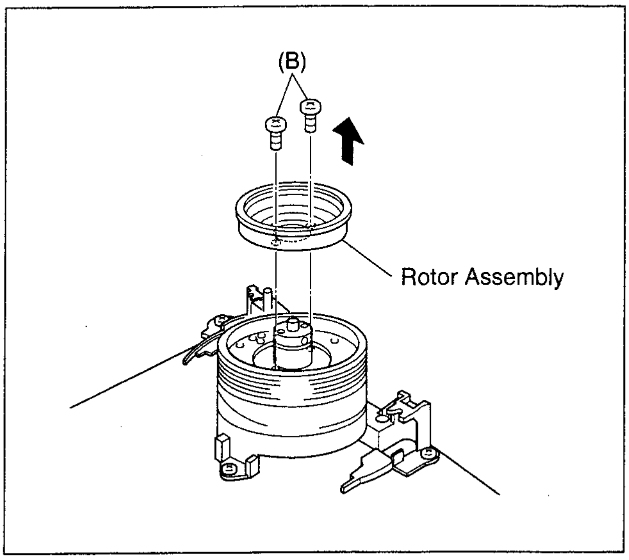
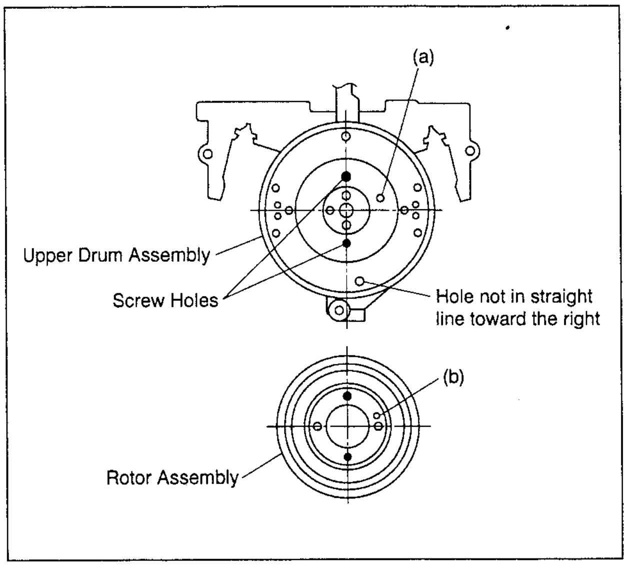

(B)
Rotor Assembly

Fig.2-5-23

NOTE : *When attaching the rotor assembly, make sure that the phases are matched correctly. Otherwise, normal image cannot be displayed. (Fig. 2-5-24)*

(3) Set the phases of the upper drum assembly and rotor assembly as shown in Fig. 2-5-24.

(4) Align hole (a) of the upper drum assembly and hole (b) of the rotor assembly, then tighten the 2 screws (B).



(a)
Upper Drum Assembly
Screw Holes
Hole not in straight line toward the right
(b)
Rotor Assembly

Fig. 2-5-24

2.6 INSTALLATION OF MAIN PARTS (Mechanism Phase Alignment)

2.6.1 Before Assembly

The mechanism of this model is closely related with the rotary encoder and the system control circuitry. The connection between the rotary encoder and control cam determines the movement of all mechanical parts including the slide plate, loading arm assembly, control plate and brake. If these parts are not installed in the correct positions, operations such as loading and unloading will not be possible.

Installation of the main parts (mechanism phase alignment) should be performed exclusively in the mechanism operation mode, as with the operations in the previous sections.

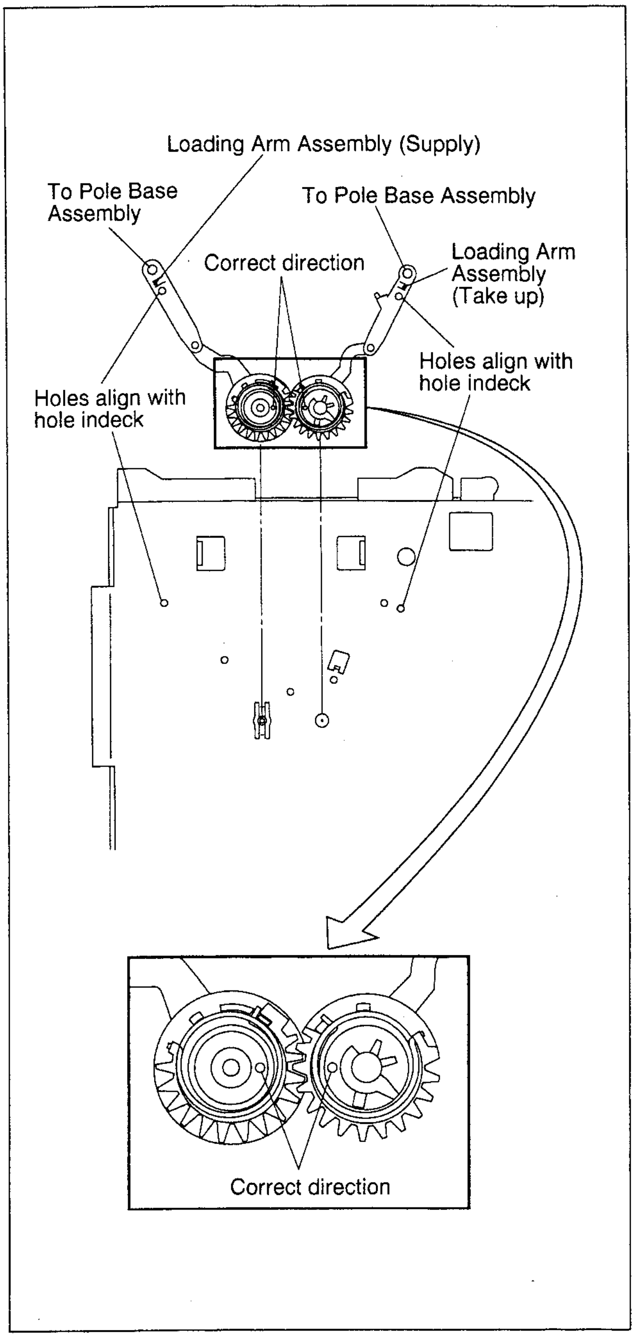
2.6.2 Loading Arm Assemblies (Supply, Take up)

(1) Attach the loading arm assembly (supply) and loading arm assembly (take up) so that the alignment markings on their gears face each other and the holes on their arms are respectively aligned with the holes on the main deck.

(2) Attach the guide rail, attach the pole base assemblies onto the extremities of the arms, then perform the unloading operation so that the pole base assemblies come to the most forward positions.

NOTE: *When attaching the pole base assemblies (supply/take up), temporarily tighten the 3 screws other than the 2 screws on the sides of the guide rail extremities so that the parts do not slip out.*

(3) Attach the surrounding parts of the guide rail.



Loading Arm Assembly (Supply)
To Pole Base Assembly
To Pole Base Assembly
Correct direction
Loading Arm Assembly (Take up)
Holes align with hole indeck
Holes align with hole indeck
Correct direction

Fig. 2-6-1

2.6.3 Rotary Encoder, Change Lever Assembly, Control Cam

(1) To attach the rotary encoder, align the triangular alignment markings and push the rotary encoder in until the claws are locked.

(2) To attach the change lever assembly, align its holes with the holes on the main deck assembly. As the change lever assembly is projected on the rear side of the main deck assembly, take care that the assemblies are not separated from each other.

(3) To attach the control cam, align its holes with the holes on the main deck assembly by pushing the capstan brake assembly downward.

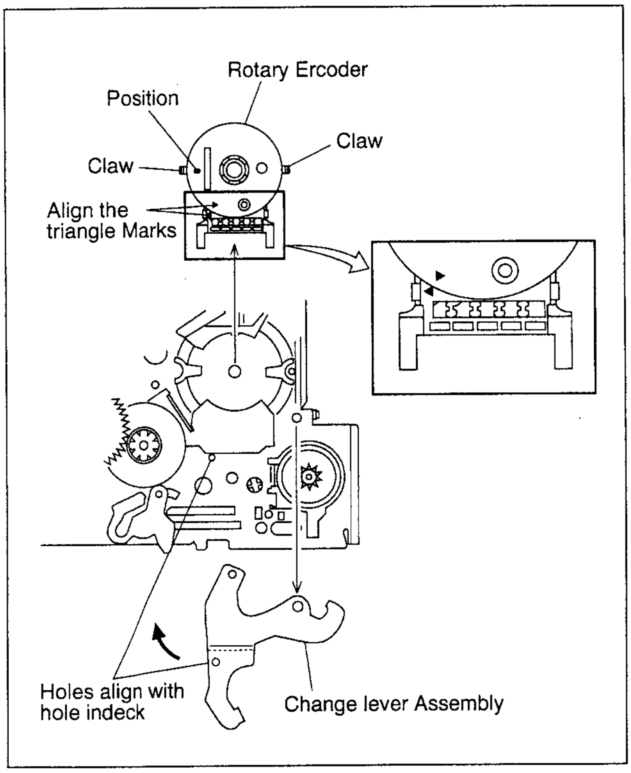

Rotary Ercoder
Position
Claw
Claw
Align the triangle Marks
Holes align with hole indeck
Change lever Assembly

Fig. 2-6-2

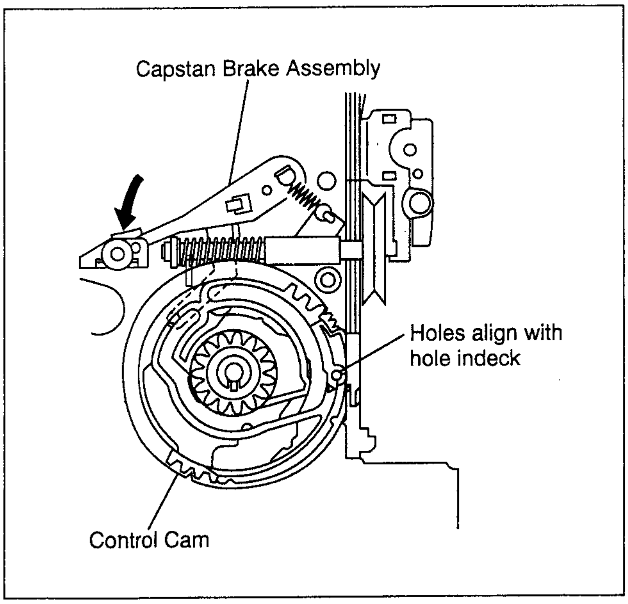

Capstan Brake Assembly
Holes align with hole indeck
Control Cam

Fig. 2-6-3

2.6.4 Slide Plate

(1) While pushing down the main brake assemblies (supply, take up) so that they come in contact with the extremity of the main deck assembly, attach the slide plate so that its alignment holes are aligned with the holes of the main deck assembly.

NOTE: *Free the brake of the sub-brake assembly (supply) during installation.*

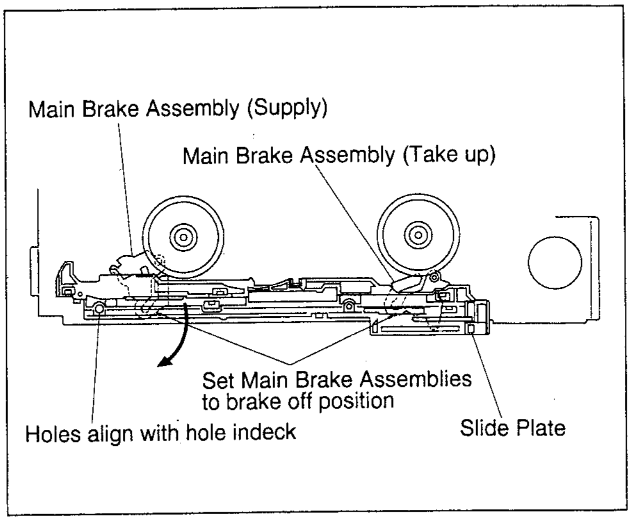

Main Brake Assembly (Supply)
Main Brake Assembly (Take up)
Set Main Brake Assemblies to brake off position
Holes align with hole indeck
Slide Plate

Fig.2-6-4

2.6.5 Control Plate

(1) Attach the control plate by aligning the 2 alignment holes on the control plate with the alignment holes on the main deck assembly as well as the alignment holes on the take up lever. As the take up lever is pulled by a tension spring, use a pair of tweezers or similar too to align the holes.

(2) After attaching the control plate, lock it with the slit washer and control bracket.

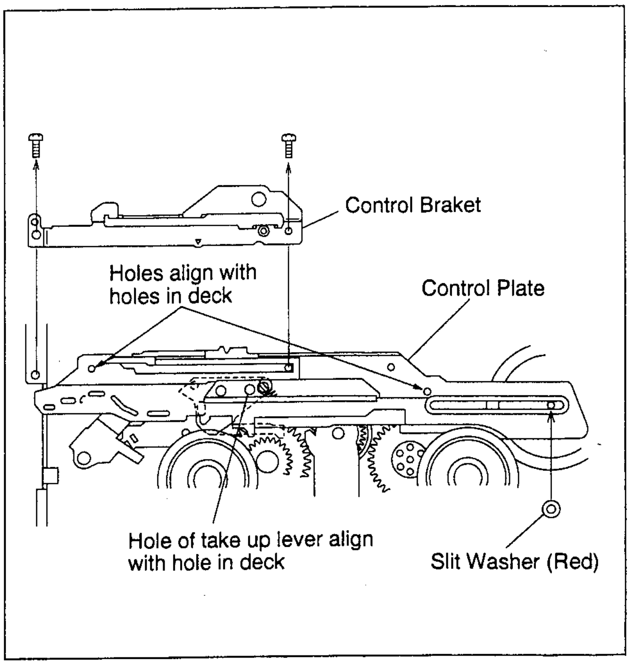

Control Braket
Holes align with holes in deck
Control Plate
Hole of take up lever align with hole in deck
Slit Washer (Red)

Fig. 2-6-5

2.7 MECHANISM TIMING CHART

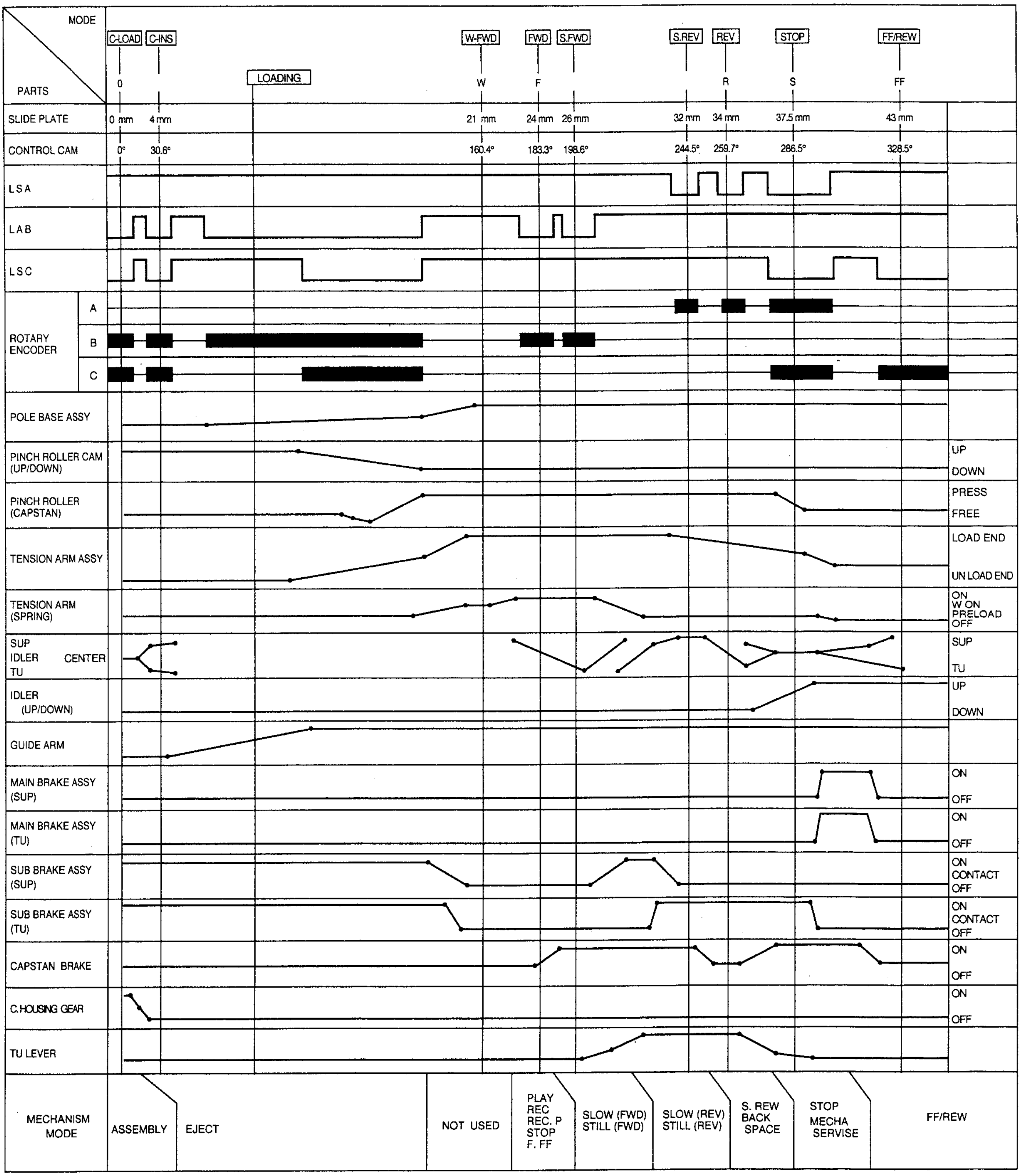

MODE
PARTS
C-LOAD
C-INS
LOADING
W-FWD
FWD
S.FWD
S.REV
REV
STOP
FF/REW
0
W
F
R
S
FF
SLIDE PLATE
0 mm
4 mm
21 mm
24 mm
26 mm
32 mm
34 mm
37.5 mm
43 mm
CONTROL CAM
0°
30.6°
160.4°
183.3°
198.6°
244.5°
259.7°
286.5°
328.5°
LSA
LAB
LSC
ROTARY ENCODER
A
B
C
POLE BASE ASSY
PINCH ROLLER CAM (UP/DOWN)
UP
DOWN
PINCH ROLLER (CAPSTAN)
PRESS
FREE
TENSION ARM ASSY
LOAD END
UN LOAD END
TENSION ARM (SPRING)
ON
W ON
PRELOAD
OFF
SUP IDLER CENTER TU
SUP
TU
IDLER (UP/DOWN)
UP
DOWN
GUIDE ARM
MAIN BRAKE ASSY (SUP)
ON
OFF
MAIN BRAKE ASSY (TU)
ON
OFF
SUB BRAKE ASSY (SUP)
ON
CONTACT
OFF
SUB BRAKE ASSY (TU)
ON
CONTACT
OFF
CAPSTAN BRAKE
ON
OFF
C.HOUSING GEAR
ON
OFF
TU LEVER
MECHANISM MODE
ASSEMBLY
EJECT
NOT USED
PLAY
REC
REC. P
STOP
F. FF
SLOW (FWD)
STILL (FWD)
SLOW (REV)
STILL (REV)
S. REW
BACK
SPACE
STOP
MECHA
SERVISE
FF/REW

Table 2-7-1

2.8 COMPATIBILITY ADJUSTMENT

NOTES:
- *Although compatibility adjustment is very important, it is not necessary to perform this as part of the normal servicing work. It will be required when the audio control head, drum assembly or any part of the tape transport system has been replaced.*
- *To avoid any damage to the alignment tape while performing the compatibility adjustment, get a separate cassette tape ready to be used for checking the initial tape running behavior (for recording and playback).*

2.8.1 Checking/Adjustment of FM Waveform Linearity

Signal (A1) (A2)	• Alignment tape [MHPE] • Alignment tape [MHPE-L]
Mode (B)	• PB
Equipment (C)	• Oscilloscope
Measuring point (D)	• TP106 (PB FM) [Main board]
External trigger (E)	• TP111 (D.FF) [Pre/Rec board]
Adjustment part (F)	• Guide roller
Specified value (G)	• Flat V.PB FM waveform
Adjustment tool (H)	• Hexagonal wrench (1.25 mm) • Roller driver [PTU94002]

(1) Play back the alignment tape (A1).
(2) Apply the external trigger signal to D.FF (E), to observe the V.PB FM waveform at the measuring point (D).
(3) Press the channel buttons (+, –) simultaneously to enter the manual tracking mode. (This also brings tracking to the centre.)
(4) Make sure that there is no significant level drop of the V.PB FM waveform caused by the tracking operation, with its generally parallel and linear variation ensured. Perform the following adjustments when required. (See Fig. 2-8-1.)
(5) Using a hexagonal wrench, gently loosen the set screw at the bottom of the pole base assembly. (Be careful not to loosen it too much.) (See Fig. 2-8-2.)
(6) Reduce the V.PB FM waveform while pressing the channel buttons (+, –) during playback. If a drop in level is found on the left side, turn the guide roller of the pole base assembly (supply side) with the roller driver to make the V.PB FM waveform linear.
If a drop in level is on the right side, likewise turn the guide roller of the pole base assembly (take-up side) with the guide roller to make it linear. (See Fig. 2-8-3.)
(7) Then play back the alignment tape (A2) and make sure that the V.PB FM waveform varies in parallel and linearly with the tracking operation. When required, perform fine-adjustment of the guide roller of the pole base assembly (supply or take-up side).
(8) After completing adjustment, tighten the set screw at the bottom of the pole base assembly. (Be careful not to tighten it too much.) (See Fig. 2-8-2.)
(9) Unload the cassette tape once, play back the alignment tape (A2) again and confirm the V.PB FM waveform.

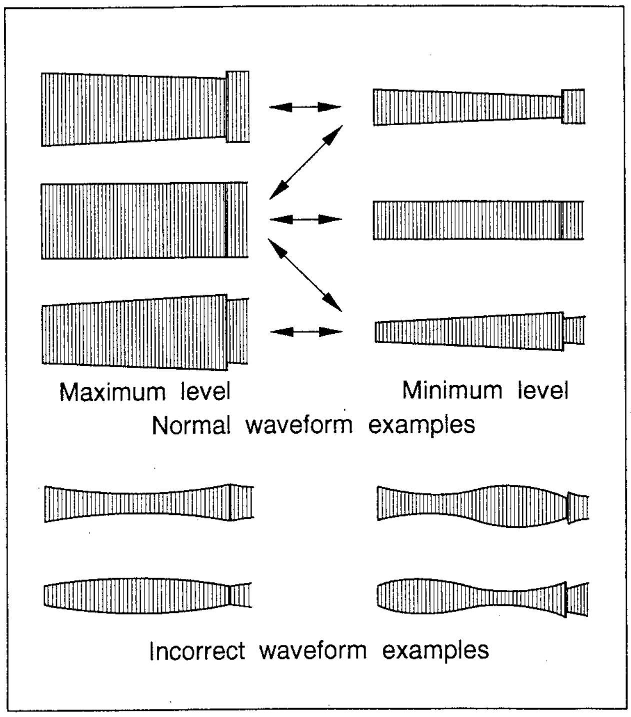


Fig. 2-8-1

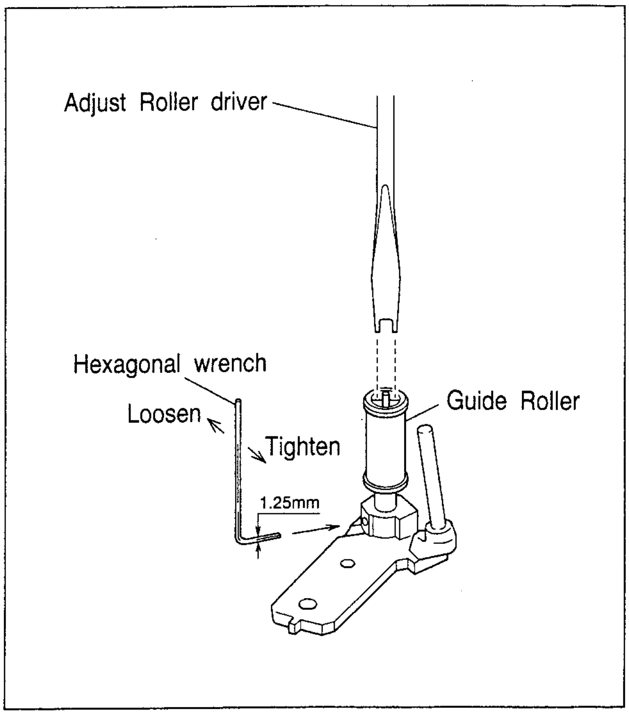


Fig. 2-8-2

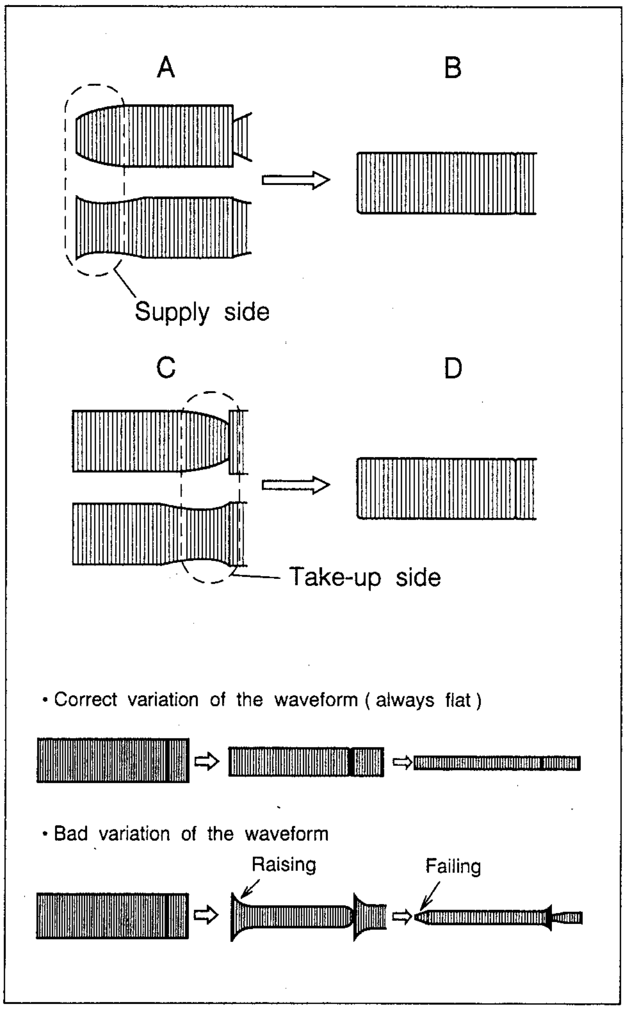

A
B
Supply side
C
D
Take-up side
• Correct variation of the waveform (always flat)
• Bad variation of the waveform
Raising
Failing

Fig. 2-8-3

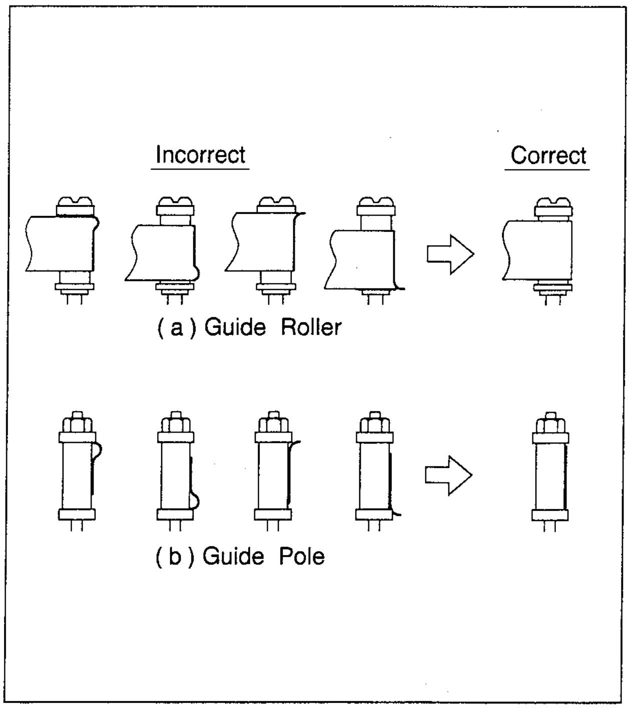

Incorrect
Correct
(a) Guide Roller
(b) Guide Pole

Fig. 2-8-4

2.8.2 Checking/Adjustment of the Height and Tilt of the Audio Control Head

NOTE : • *Set a temporary level of the height of the A/C head in advance to make the adjustment easier after the A/C head has been replaced. (See Fig. 2-5-4.)*

Signal (A)	• Alignment tape [MHPE]
Mode (B)	• PB
Equipment (C)	• Oscilloscope
Measuring point (D1) (D2)	• AUDIO OUT terminal • TP4001 (CTL. P) [Main board]
External trigger (E)	• TP111 (D.FF) [Pre/Rec board]
Adjustment part (F)	• A/C head
Specified value (G)	• Maximum waveform

(1) Play back the alignment tape (A).
(2) Apply the external trigger signal to D.FF (E), to observe the AUDIO OUT waveform and Control pulse waveform at the measuring points (D1) and (D2) in the ALT mode.
(3) Press the channel buttons (+, –) simultaneously to enter the manual tracking mode. (This also brings tracking to the centre.)
(4) Adjust the AUDIO OUT waveform and Control pulse waveform by turning the screws (1), (2) and (3) little by little until both waveforms reach maximum. The screw (1) and (3) are for adjustment of tilt and the screw (2) for azimuth.

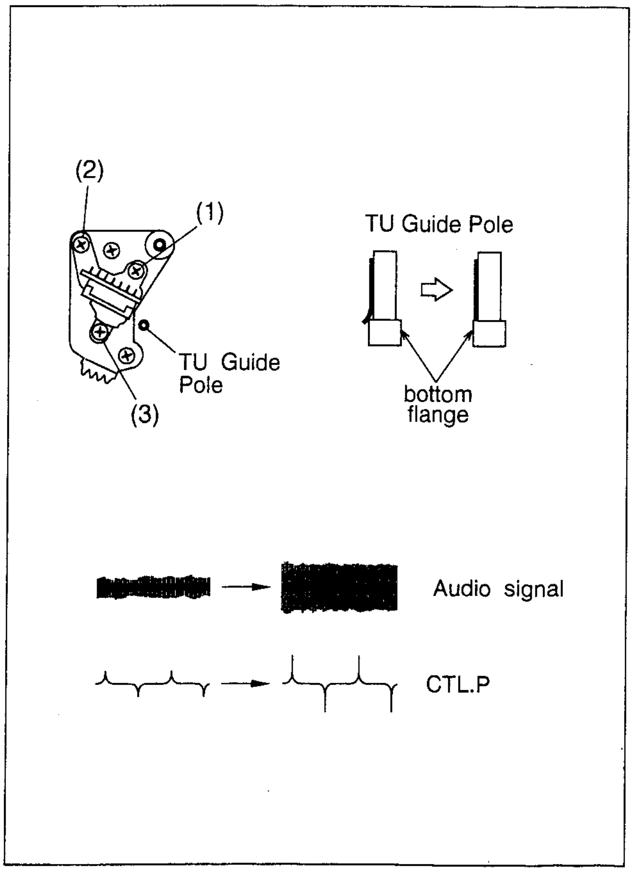

(2)
(1)
TU Guide Pole
TU Guide Pole
(3)
bottom flange
Audio signal
CTL.P

Fig. 2-8-5

2.8.3 Checking/Adjustment of the Audio Control Head Phase (X-Value)

Signal (A1) (A2)	• Alignment tape [MHPE] • Alignment tape [MHPE-L]
Mode (B)	• PB
Equipment (C)	• Oscilloscope
Measuring point (D)	• TP106 (PB FM) [Main board]
External trigger (E)	• TP111 (D.FF) [Pre/Rec board]
Adjustment part (F)	• A/C head base
Specified value (G)	• Maximum V.PB FM waveform
Adjustment tool (H)	• A/C head positioning tool [PTU94010]

(1) Play back the alignment tape (A1).
(2) Apply the external trigger signal to D.FF (E), to observe the V.PB FM waveform at the measuring point (D).
(3) Press the channel buttons (+, –) simultaneously to enter the manual tracking mode. (This also brings tracking to the centre.)
(4) Loosen screws (4) and (5) so that the A/C head positioning tool is set as indicated in Fig. 2-8-6.
(5) Turn the A/C head positioning tool fully toward the capstan. Then turn it back gradually toward the drum and stop on the first peak point position of the V.PB FM waveform output level. Then tighten the screw (4) temporarily.
(6) Then play back the alignment tape (A2).
(7) Press the channel buttons (+, –) simultaneously to enter the manual tracking mode. (This also brings tracking to the centre.)
(8) Perform the tracking operation and make sure that the V.PB FM waveform is at its maximum.
(9) If it is not at maximum, loosen the temporarily tightened screw (4) and turn the A/C head positioning tool to bring the audio control head to a position around where the waveform reaches its maximum for the first time. Then tighten the screws (4) and (5).

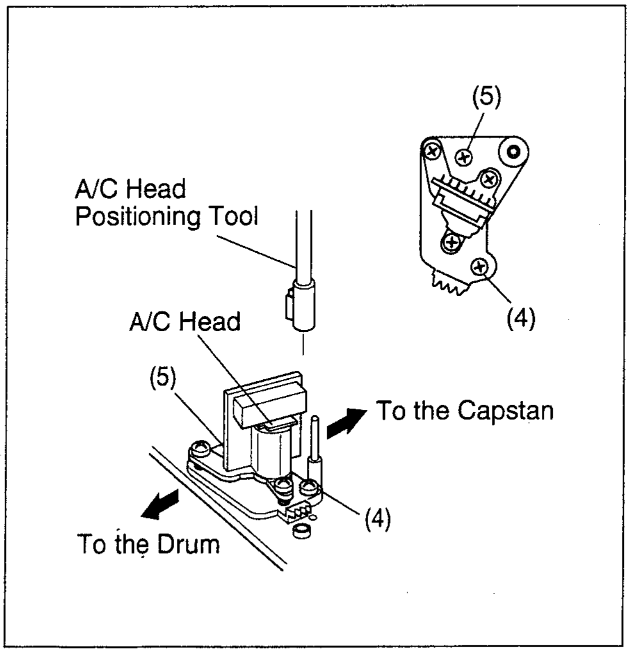


Fig. 2-8-6

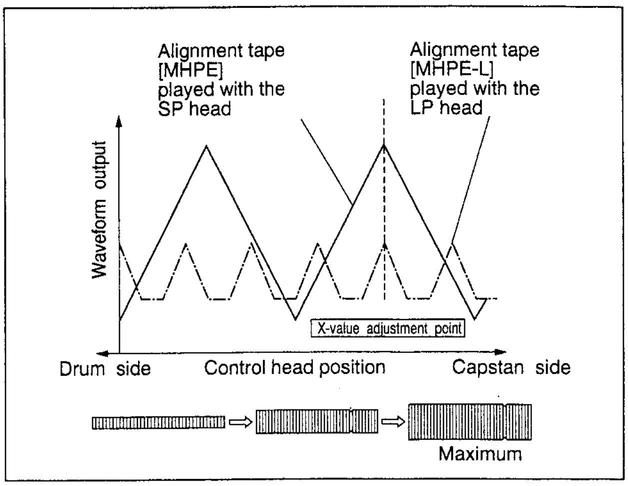


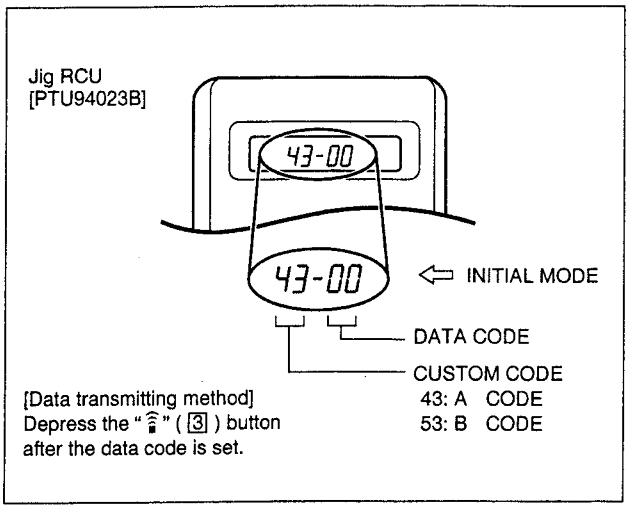
Fig. 2-8-7

2.8.4 Checking/Adjustment of the Standard Tracking Preset

NOTE : • *When using the Jig RCU, set its custom code to match the custom code of the VCR.*

Signal (A)	• Alignment tape [MHPE-L]
Mode (B)	• PB
Equipment (C)	• Oscilloscope
Measuring point (D)	• TP106 (PB FM) [Main board]
External trigger (E)	• TP111 (D.FF) [Pre/Rec board]
Adjustment part (F)	• Jig RCU: Code "50"
Specified value (G)	• Maximum V.PB FM waveform

(1) Play back the alignment tape (A).
(2) Apply the external trigger signal to D.FF (E), to observe the V.PB FM waveform at the measuring point (D).
(3) Confirm that the automatic tracking operation is completed.
(4) Set the VCR to the Auto adjust mode by transmitting the code (F) twice from the Jig RCU. Adjustment is completed unless the VCR enters the eject mode.
(5) If the VCR enters the eject mode, perform adjustment for the audio control head phase (X-value) again.



[Data transmitting method]
Depress the "📶" (3) button
after the data code is set.

Fig. 2-8-8

2.8.5 Checking/Adjustment of the Tension Pole Position

Signal (A)	• Back tension cassette gauge [PUJ48076-2]
Mode (B)	• PB
Adjustment part (F)	• Mechanism assembly: adjusting pin
Specified value (G)	• 29 - 46 gf•cm

(1) Play back the back tension cassette gauge (A).

(2) Check that the indicated value on the left side gauge is within the specified value (G).

(3) If the indicated value is not within the specified value, perform the adjustment in a following procedure.

  1) Set the VCR to the mechanism service mode. (See 1.5 MECHANISM SERVICE MODE.)

  2) Set the VCR to the play back mode and turn the adjust pin using the flat-blade screwdriver, etc. by paying attention not to come into contact with the 2.5 mm dia. Pole. (See Fig 2-8-9.)

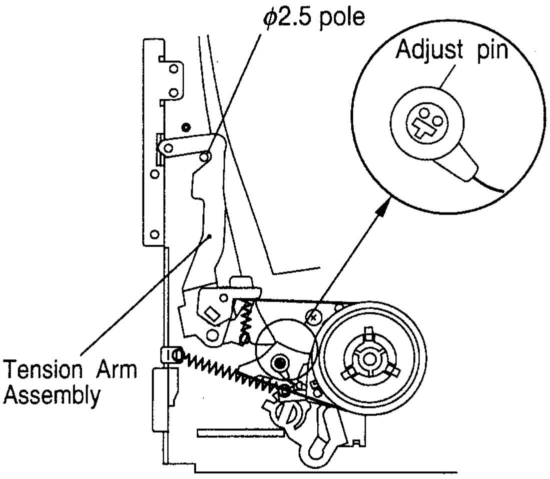


Fig. 2-8-9

SECTION 3
ELECTRICAL ADJUSTMENT

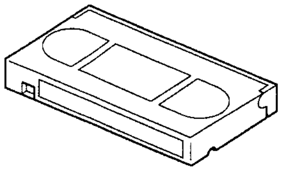
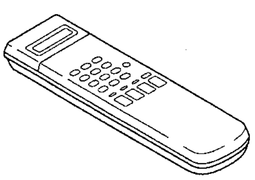
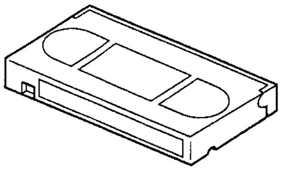
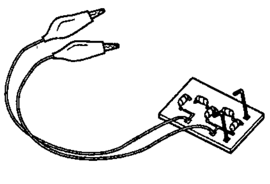
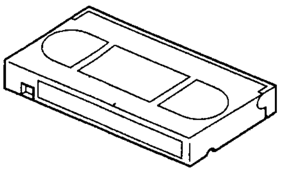
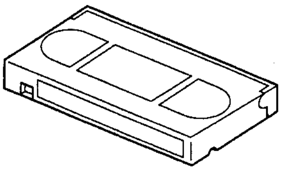
3.1 PRECAUTION

The following adjustment procedures are not only necessary after replacement of consumable mechanical parts or board assemblies, but are also provided as references to be referred to when servicing the electrical circuitry.
In case of trouble with the electrical circuitry, always begin a service by identifying the defective points by using the measuring instruments as described in the following electrical adjustment procedures. After this, proceed to the repair, replacement and/or adjustment. If the required measuring instruments are not available in the field, do not change the adjustment parts (variable resistor, set.) carelessly.

3.1.1 Required test equipments

① Colour television or monitor
② Oscilloscope: wide-band,dual-trace,triggered delayed sweep
③ Frequency counter
④ Signal generator: RF/IF sweep/marker
⑤ Signal generator: PAL colour bar, stairstep
⑥ Recording tape (VHS tape/S-VHS tape/D-VHS tape)
⑦ Digit-key remote controller(provided)

3.1.2 Required adjustment tools

Alignment tape (SP, stairstep, PAL) MHPE	Jig RCU PTU94023B
	
Alignment tape (S-VHS, SP/LP, colour bar) MH-2H	LPF PTU93006
	
Alignment tape (SP, stairstep, NTSC) MHP	Alignment tape (D-VHS, STD, colour bar) MD-1
	

3.1.3 Colour bar signal,colour bar pattern

- PAL colour bar signal

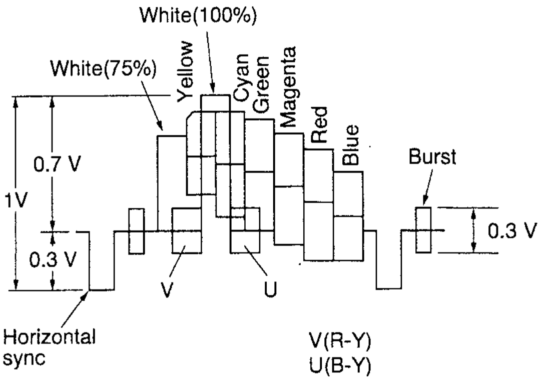

White(100%)
White(75%)
Yellow
Cyan
Green
Magenta
Red
Blue
Burst
0.7 V
1V
0.3 V
0.3 V
V
U
Horizontal sync
V(R-Y)
U(B-Y)

Fig.3-1-1 PAL colour bar signal waveform

- PAL colour bar pattern

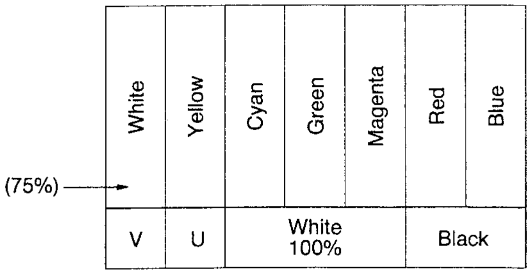
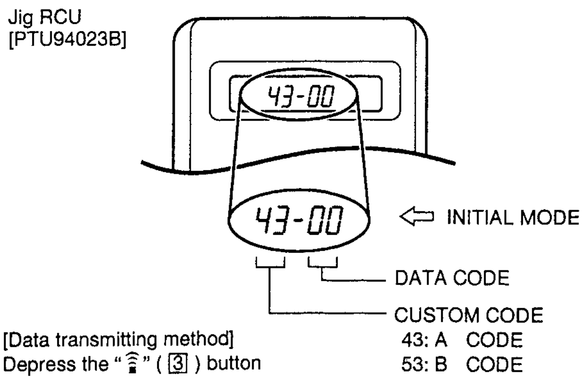

White
Yellow
Cyan
Green
Magenta
Red
Blue
(75%)
V
U
White 100%
Black

Fig.3-1-2 PAL colour bar pattern

3.1.4 Jig RCU

Note: • *When using the Jig RCU, set its custom code to match the custom code of the VCR.*


Jig RCU
[PTU94023B]
43-00
43-00
INITIAL MODE
DATA CODE
CUSTOM CODE
43: A CODE
53: B CODE

[Data transmitting method]
Depress the “📶” ([3]) button after the data code is set.

Fig. 3-1-3 Jig RCU

3.1.5 EVR Adjustment

Some of the electrical adjustments require the adjustment performed by the EVR system. The Main board assembly and Digital board assembly have EEPROMs for storing the EVR adjustment data and user setups.

Notes:
- *In the EVR adjustment mode, the value is varied with the channel buttons (+, –). The adjusted data is stored when the setting mode changes (from PB to STOP, when the tape speed is changed, etc.). Take care to identify the current mode of each adjustment item when making an adjustment.*
- *When changing the address setting in the EVR adjustment mode, use the Jig RCU or the remote controller having numeric keypad with which a numeric code can be directly input. The remote control code of the Jig RCU corresponds to each of the digit keys on the remote controller as follows.*

Digit-key	0	1	2	3	4	5	6	7	8	9
Code	20	21	22	23	24	25	26	27	28	29

- *As the counter indication and remaining tape indication are not displayed FDP during the EVR (MAIN) adjustment mode, check them on the TV monitor screen.*
- *When performing the EVR (MAIN) / EVR (DIGITAL) adjustment, confirm that the FDP / OSD indication is changed to the EVR mode, as shown below.*

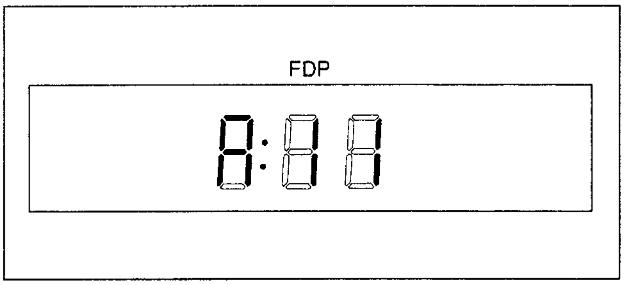


Fig. 3-1-4 EVR [MAIN] mode

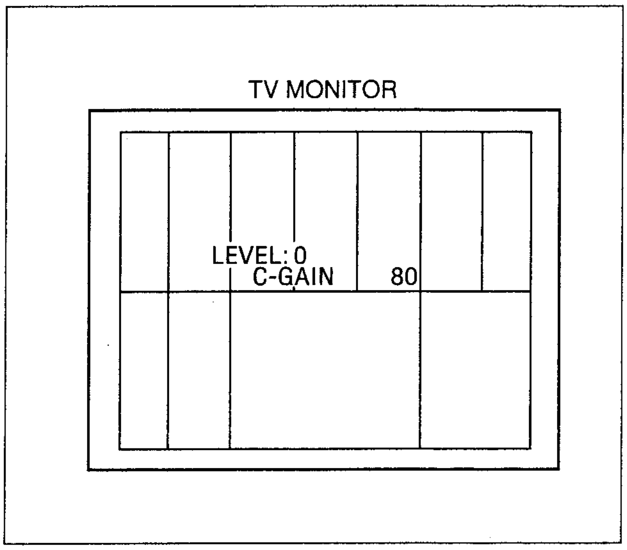


Fig. 3-1-5 EVR [DIGITAL] mode

3.1.6 Switch settings and standard precautions

The SW settings of the VCR and the standard precautions for the electrical adjustments are as follows.

Notes:
- *In the Signal column of the adjustment chart, "Ext. S-input" means the Y/C separated video signal and "Ext. input" means the composite video signal input.*
- *Set the switches as shown below unless otherwise specified on the relevant adjustment chart. The switches that are not listed below can be set as desired.*

B.E.S.T. (D.S.P.C.)	OFF
Picture control (Smart picture)	Normal (Natural)
TBC	ON
Digital 3R	ON

3.2 SERVO CIRCUIT

Note: • *Unless otherwise specified, all measuring points and adjustment parts are located on the Main board.*

3.2.1 Switching point

Signal	(A1) (A2)	• Alignment tape [MHPE] • Alignment tape [MHP]
Mode	(B)	• PB • TBC: OFF
Equipment	(C)	• Oscilloscope
Measuring point	(D1) (D2)	• VIDEO OUT terminal • TP106 (PB FM)
External trigger	(E)	• TP111 (D.FF)/SLOPE : – [Pre/Rec board]
Adjustment part	(F)	• Jig RCU: Code "51" or "52"
Specified value	(G)	• 8.0 ± 0.5H [MHPE] • 7.5 ± 0.5H [MHP]

(1) Play back the stairstep signal of the alignment tape (A1).
(2) Apply the external trigger signal to D.FF (E) to observe the VIDEO OUT waveform and V.PB FM waveform at the measuring points (D1) and (D2).
(3) Press the channel buttons (+, –) simultaneously to enter the manual tracking mode. (This also brings tracking to the centre.)
(4) Adjust tracking by pressing the channel buttons (+, –) so that the V.PB FM waveform becomes maximum.
(5) Transmit the code (F) from the Jig RCU to adjust so that the switching point of the VIDEO OUT waveform is changed from the trailing edge of the V.sync signal becomes the specified value (G).
(6) Set the VCR to the stop mode or eject mode.
(7) Play back the stairstep signal of the alignment tape (A2).
(8) Repeat steps (2) to (6).

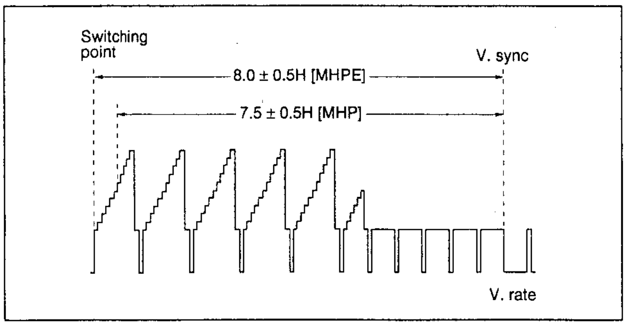


Fig. 3-2-1 Switching point

3.2.2 D-VHS switching point

Signal (A)	• Alignment tape [MD-1]
Mode (B)	• PB
Equipment (C)	• Oscilloscope
Measuring point (D)	• TP6006 (PB DATA) [Pre/Rec board]
External trigger (E)	• TP111 (D.FF) [Pre/Rec board]
Adjustment part (F)	• Jig RCU: Code "51" or "52"
Specified value (G)	• 230 ± 20 µsec

(1) Play back the alignment tape (A).
(2) Apply the external trigger signal to D.FF (E) to observe the D-VHS envelope waveform at the measuring point (D).
(3) Press the channel buttons (+, –) simultaneously to enter the manual tracking mode. (This also brings tracking to the centre.)
(4) Adjust tracking by pressing the channel buttons (+, –) so that the envelope output becomes maximum.
(5) Transmit the code (F) from the Jig RCU to adjust so that the duration from the waveform end (Hi/Low switching point of D.FF) to the rising edge of subcode area becomes the specified value (G).
(6) Set the VCR to the stop mode or eject mode.

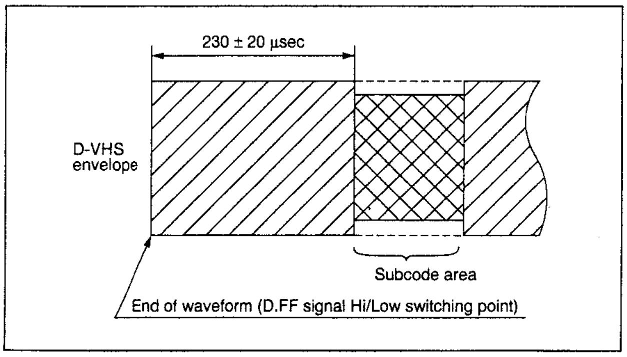


Fig. 3-2-2 D-VHS switching point

3.2.3 Slow tracking preset

Signal (A1) (A2)	• Ext. input • Colour bar signal [PAL]
Mode (B1) (B2)	• REC(SP) → PB → FWD/REW slow PB • REC(LP) → PB → FWD/REW slow PB
Measuring point (D)	• TV-Monitor
Adjustment part (F)	• Jig RCU: Code "71" or "72"
Specified value (G)	• Minimum noise

(1) Record the colour bar signal (A2) in the SP mode (B1), and play back the recorded signal.
(2) Press the channel buttons (+, –) simultaneously to enter the manual tracking mode. (This also brings tracking to the centre.)
(3) Set the VCR to the FWD slow mode (B1).
(4) Transmit the code (F) from the Jig RCU to adjust so that the noise bar becomes the specified value (G) on the TV monitor (D) in the slow mode (B1).
(5) Set the VCR to the Stop mode.
(6) Confirm that the noise bar is (G) on the TV monitor (D) in the slow mode.
(7) Repeat steps (3) to (6) in the REV slow mode (B1).
(8) Repeat steps (1) to (7) in the LP mode (B2).

Note: • *For FWD slow playback, transmit the "08" code from the Jig RCU to enter the slow playback mode, and transmit the "D0" code for REV slow mode.*

3.3 VIDEO CIRCUIT

Note: • *Unless otherwise specified, all measuring points and adjustment parts are located on the Main board.*

3.3.1 EE Y level

Signal (A1) (A2)	• Ext. input • Colour bar signal [PAL]
Mode (B)	• EE
Equipment (C)	• Oscilloscope
Measuring point (D)	• Y OUT terminal (75Ω terminated)
EVR mode (F1) EVR address (F2)	• Jig RCU: Code "57" • A:11 (Press remote controller "1" key twice)
Specified value (G)	• 1.00 ± 0.03 Vp-p
Adjustment tool (H)	• Jig RCU [PTU94023B] • Digit-key remote controller

(1) Observe the Y OUT waveform at the measuring point (D).
(2) Set the VCR to the EVR mode by transmitting the code (F1) from the Jig RCU for more than 2 seconds.
(3) Set the EVR address to (F2) by pressing the button of the digit-key remote controller.
(4) Adjust with the channel buttons (+, –) on the VCR (or on the remote controller) so that the Y level of the Y OUT waveform becomes the specified value (G).
(5) Release the EVR mode of the VCR by transmitting the code (F1) from the Jig RCU again. (When the EVR mode is released, the adjusted data is memorized.)

Note: • *After adjusting, always perform the confirmation and re-adjustment of the item 3.6.1.*

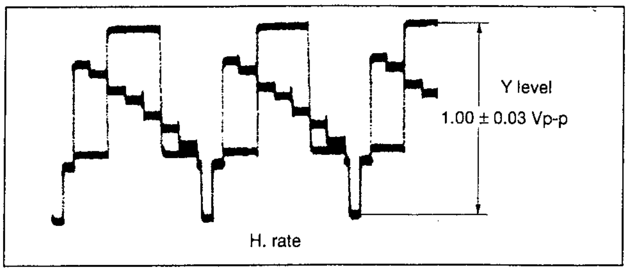


Fig. 3-3-1 EE Y level

3.3.2 SP/LP REC colour level

Signal	(A1) (A2) (A3)	• Alignment tape [MH-2H] • Ext. input • Colour bar signal [PAL]
Mode	(B1) (B2) (B3)	• S-VHS • PB • REC (SP/LP) → PB
Equipment	(C)	• Oscilloscope
Measuring point	(D1) (D2)	• TP106 (PB FM) • PB colour output of the LPF
External trigger	(E)	• TP111 (D.FF) [Pre/Rec board]
EVR mode EVR address	(F1) (F2)	• Jig RCU: Code "57" • A:02 (Press remote controller "0" and "2" keys)
Specified value	(G)	• SP: "B" x 125 ± 5% • LP: "B" x 125 ± 5%
Adjustment tool	(H1) (H2) (H3)	• Jig RCU [PTU94023B] • Digit-key remote controller • LPF[PTU93006] (See Fig. 3-3-2.)

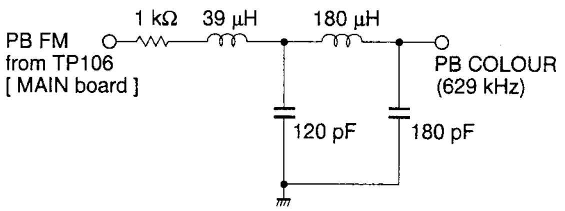


Fig. 3-3-2 LPF

(1) Connect the adjustment tool (H3) to the measuring point (D1).
(2) Apply the external trigger signal to D.FF (E) to observe the PB colour waveform at the measuring point (D2).
(3) Play back the SP colour bar signal of the alignment tape (A1).
(4) Press the channel buttons (+, –) simultaneously to enter the manual tracking mode. (This also brings tracking to the centre.)
(5) Adjust tracking by pressing the channel buttons (+, –) so that the PB colour waveform becomes maximum. Make a note of the higher PB colour level as "B" at this time.
(6) Record the colour bar signal (A3) in the S-VHS (B1) SP mode (B3), and play back the recorded signal.
(7) Set the VCR to the EVR mode by transmitting the code (F1) from the Jig RCU for more than 2 seconds.
(8) Set the EVR address to (F2) by pressing the button of the digit-key remote controller.
(9) Adjust with the channel buttons (+, –) on the VCR (or on the remote controller) so that the higher level channel becomes the specified value (G) of the note "B" level as shown in Fig. 3-3-3. (Adjust before recording, then confirm it by playing back.)
(10) After adjustment, record the colour bar signal (A3) then playing it back again. At this time, confirm that there is no inverting phenomenon or noise appearing on the playback screen.
(11) Release the EVR mode of the VCR by transmitting the code (F1) from the Jig RCU again. (When the EVR mode is released, the adjusted data is memorized.)
(12) Repeat steps (3) to (11) in the S-VHS (B1) LP mode (B3).

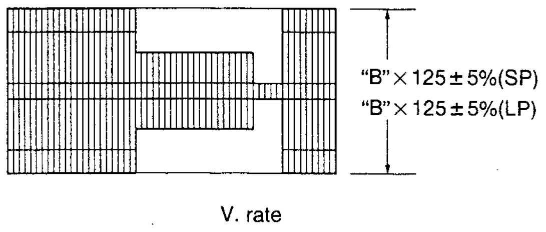


Fig. 3-3-3 SP/LP REC colour level

3.3.3 PB Y level (S-VHS/VHS)

Signal	(A1) (A2)	• Ext. input • Colour bar signal [PAL]
Mode	(B1) (B2)	• S-VHS/VHS • REC (SP) → PB
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• Y OUT terminal (75Ω terminated)
EVR mode EVR address	(F1) (F2)	• Jig RCU: Code "57" • A:11 (Press remote controller "1" key twice)
Specified value	(G)	• 1.00 ± 0.03 Vp-p
Adjustment tool	(H)	• Jig RCU [PTU94023B] • Digit-key remote controller

(1) Observe the Y OUT waveform at the measuring point (D).
(2) Record the colour bar signal (A2) in the S-VHS (B1) SP mode (B2), and play back the recorded signal.
(3) Set the VCR to the EVR mode by transmitting the code (F1) from the Jig RCU for more than 2 seconds.
(4) Set the EVR address to (F2) by pressing the button of the digit-key remote controller.
(5) Adjust with the channel buttons (+, –) on the VCR (or on the remote controller) so that the Y level of the Y OUT waveform becomes the specified value (G).
(6) Release the EVR mode of the VCR by transmitting the code (F1) from the Jig RCU again. (When the EVR mode is released, the adjusted data is memorized.)
(7) Repeat steps (2) to (6) in the VHS (B1) SP mode (B2).

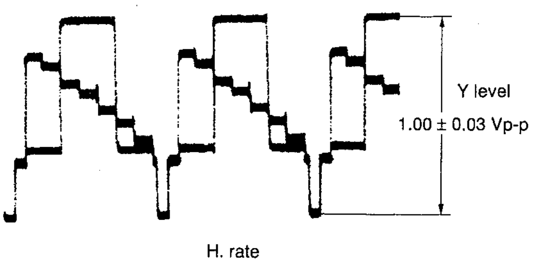


Fig. 3-3-4 PB Y level

3.3.4 Video EQ (Frequency response)

Signal	(A1) (A2)	• Ext. S-input • Video sweep signal
Mode	(B1) (B2) (B3)	• S-VHS • REC (SP/LP) → PB • Picture Control (Smart Picture) REC: Normal (Natural) PB: Edit (Distinct)
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• Y OUT terminal (75Ω terminated)
External trigger	(E)	• TP111 (D.FF) [Pre/Rec board]
EVR mode EVR address	(F1) (F2)	• Jig RCU: Code "57" • A:03 (Press remote controller "0" and "3" keys)
Specified value	(G)	• SP: 3.6 ± 0.4 div. (–1 ± 1 dB) • LP: 3.2 ± 0.4 div. (–2 ± 1 dB)
Adjustment tool	(H)	• Jig RCU [PTU94023B] • Digit-key remote controller

(1) Apply the external trigger signal to D.FF (E) to observe the Y OUT waveform at the measuring point (D).
(2) Record the sweep signal (A2) in the S-VHS (B1) SP mode (B2), and play back the recorded signal.
(3) Press the channel buttons (+, –) simultaneously to enter the manual tracking mode. (This also brings tracking to the centre.)
(4) Set the VCR to the EVR mode by transmitting the code (F1) from the Jig RCU for more than 2 seconds.
(5) Set the EVR address to (F2) by pressing the button of the digit-key remote controller.
(6) Set the 100 kHz marker level of the channel having higher 3 MHz marker level of the Y OUT waveform (sweep signal) to the "4" scale on the oscilloscope. In this condition, adjust with the channel buttons (+, –) on the VCR (or on the remote controller) so that the 3 MHz marker level reaches the specified value (G).
(7) Release the EVR mode of the VCR by transmitting the code (F1) from the Jig RCU again. (When the EVR mode is released, the adjusted data is memorized.)
(8) Repeat steps (2) to (7) in the S-VHS (B1) LP mode (B2).

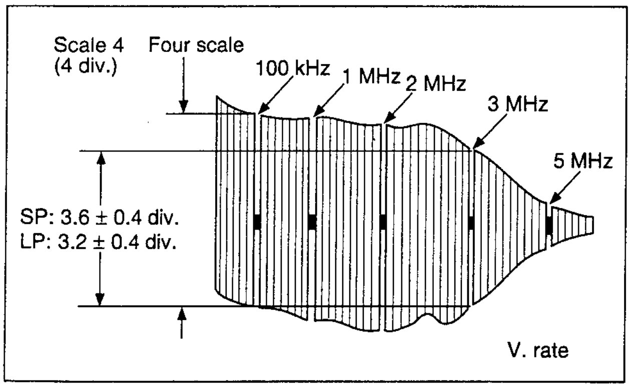


Fig. 3-3-5 Video EQ (Frequency Response)

3.3.5 Pilot burst level

Signal	(A1) (A2) (A3)	• Ext. input • Colour bar signal [PAL] • S-VHS tape
Mode	(B1) (B2)	• S-VHS • EE
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• TP1001 (FSC PHASE) [3D SVHS board]
Adjustment part	(F)	• VR1002 (P. BURST LEVEL) [3D SVHS board]
Specified value	(G)	• "B" x 110 ± 10%

(1) Insert the S-VHS tape (A3).
(2) Observe the waveform appeared at the measuring point (D).
(3) Adjust the adjustment part (F) so that the Pilot burst level becomes the specified value (G) against the value of the Burst level "B".

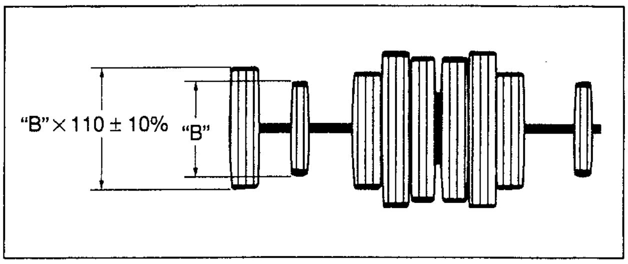


Fig. 3-3-6 Pilot burst level

3.3.6 AUTO PICTURE initial setting

Signal	(A1) (A2)	• Ext. input • Mono-scope
Mode	(B1) (B2)	• S-VHS • REC (SP/LP) → PB
Adjustment part	(F)	• Jig RCU: Code "58"
Specified value	(G)	• Stop mode

(1) Record the mono-scope signal (A2) in the S-VHS (B1) SP mode (B2), and play back the recorded signal.
(2) Press the channel buttons (+, –) simultaneously to enter the manual tracking mode. (This also brings tracking to the centre.)
(3) Set the VCR to the Auto adjust mode by transmitting the code (F) from the Jig RCU. When the VCR enters the stop mode (G), the adjustment is completed. When the VCR enters the eject mode, repeat steps (1) to (3) again.
(4) Repeat steps (1) to (3) in the S-VHS (B1) LP mode (B2).

3.4 3D SVHS CIRCUIT

Note: • *Unless otherwise specified, the measuring point and adjustment part are located on the 3D SVHS board.*

3.4.1 D/A level

Signal	(A1) (A2)	• Ext. S-input / Ext. input • Colour bar signal [PAL]
Mode	(B1) (B2)	• S-VHS • EE
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• CN1002 - pin 28 (Y OUT) [3D SVHS board]
Adjustment part	(F)	• VR1401 (DA Y LEVEL) [3D SVHS board]
Specified value (Note)	(G)	• 2.05 ± 0.03 Vp-p (reference value)

(1) Observe the Y OUT waveform at the measuring point (D).

(2) Check the Y level value when the External S-input (Y/C separated video signal).

(3) Switch the input signal to the External input (composite video signal), and adjust the adjustment part (F) so that the Y level becomes the same value observed in step (2).

Note: • *The specified value (G) is just a reference value to be obtained when the External S-Video (Y/C separated video) signal is input. In actual adjustment, set it to the value observed in step (2).*

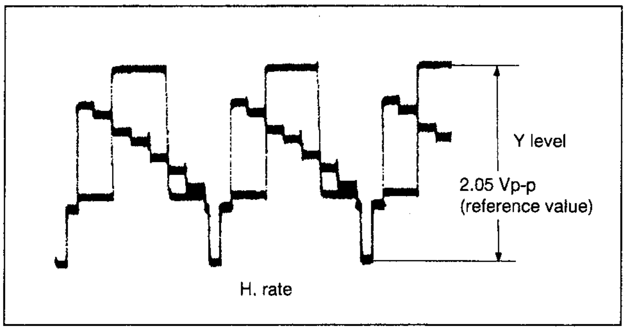


Fig. 3-4-1 D/A level

3.5 AUDIO CIRCUIT

Notes: • *Unless otherwise specified, the measuring point and adjustment part are located on the Main board.*
• *This adjustment should be done after the "SP/ LP REC colour level adjustment" for the video circuit has been completed.*
• *GND (Ground) should be taken from the Pre/Rec board shield.*

3.5.1 Audio REC FM

Signal	(A1) (A2) (A3)	• Ext. input • Audio: No signal • Video: Colour bar signal [PAL]
Mode	(B1) (B2)	• S-VHS • REC (LP) → PB
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• TP2253 (A. PB FM) [Pre/Rec board]
External trigger	(E)	• TP111 (D.FF) [Pre/Rec board]
Adjustment part	(F)	• VR2271 (FMA REC LEVEL) [Pre/Rec board]
Specified value	(G1) (G2)	• 600 ± 100 mVp-p • More than 400 mVp-p

(1) Apply the external trigger signal to D.FF (E) to observe the Audio PB FM waveform at the measuring point (D).

(2) Record the colour bar signal (A3) with no audio signal input (A2) in the S-VHS (B1) LP mode (B2), and play back the recorded signal.

(3) Press the channel buttons (+, –) simultaneously to enter the manual tracking mode. (This also brings tracking to the centre.)

(4) Adjust the adjustment part (F) so that the A.PB FM level of the higher channel level becomes the specified value (G1). (Adjust before recording, then confirm it by playing back.)

(5) If the specified value (G1) is not obtained, adjust the adjustment part (F) so that the waveform level of the lower channel level becomes the specified value (G2). (Adjust before recording, then confirm it by playing back.)

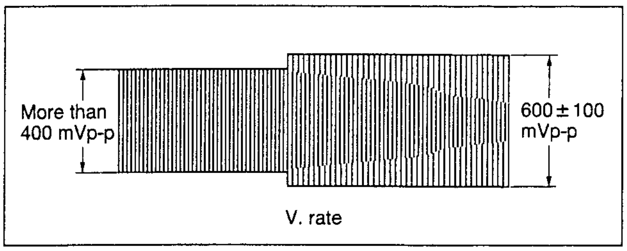


Fig. 3-5-1 Audio REC

3.6 DIGITAL CIRCUIT

Note: • *Unless otherwise specified, all measuring points and adjustment parts are located on the Digital board.*

3.6.1 CODEC AD Y input level

Signal	(A1) (A2) (A3)	• Ext. S-input • Colour bar signal [PAL] • DF-300
Mode	(B1) (B2)	• D-VHS • EE
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• TP8614 (AD Y IN)
Adjustment part	(F)	• VR8601 (CODEC AD Y IN)
Specified value	(G)	• 1.48 ± 0.01 Vp-p

(1) Insert the D-VHS tape (A3).
(2) Observe the Y waveform at the measuring point (D).
(3) Adjust the adjustment part (F) so that the Y level of the Y waveform becomes the specified value (G).

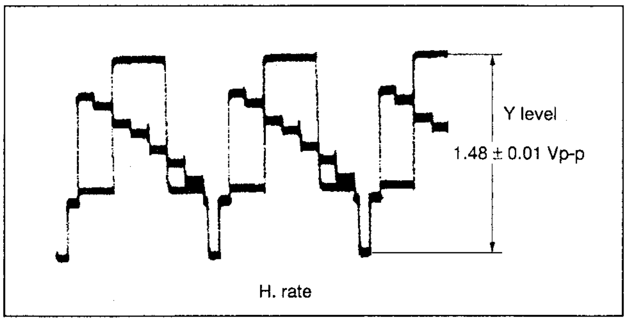


Fig. 3-6-1 CODEC AD Y input level

3.6.2 CODEC S-Y level

Signal	(A1) (A2) (A3)	• Ext. S-input • Colour bar signal [PAL] • DF-300
Mode	(B1) (B2)	• D-VHS • REC (STD) → PB
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• Y OUT terminal (75Ω terminated)
EVR mode EVR address	(F1) (F2) (F3)	• Jig RCU: Code "62" • "0" Y-GAIN [EVR (DIGITAL)] (Press remote controller "0" key) • Jig RCU: Code "3C"
Specified value	(G)	• 1.00 ± 0.02 Vp-p
Adjustment tool	(H)	• Jig RCU [PTU94023B] • Digit-key remote controller

(1) Observe the Y OUT waveform at the measuring point (D).
(2) Record the colour bar signal (A2) in the D-VHS (B1) STD mode (B2), and play back the recorded signal.
(3) Set the VCR to the EVR (DIGITAL) mode by transmitting the code (F1) from the Jig RCU.
(4) Set the EVR (DIGITAL) address to (F2) by pressing the button of the digit-key remote controller.
(5) Adjust with the channel buttons (+, –) on the VCR (or on the remote controller) so that the Y level of the Y OUT waveform becomes the specified value (G).
(6) Release the EVR (DIGITAL) mode of the VCR by transmitting the code (F3) from the Jig RCU. (When the EVR mode is released, the adjusted data is memorized.)

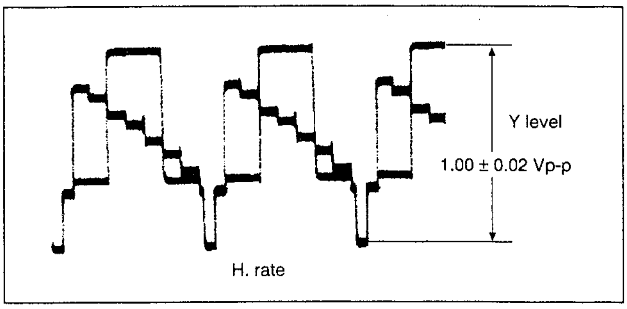


Fig. 3-6-2 CODEC S-Y level

3.6.3 CODEC S-C level

Signal	(A1) (A2) (A3)	• Ext. S-input • Colour bar signal [PAL] • DF-300
Mode	(B1) (B2)	• D-VHS • REC (STD) → PB
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• C OUT terminal (75Ω terminated)
EVR mode EVR address	(F1) (F2) (F3)	• Jig RCU: Code "62" • "3" C-GAIN [EVR (DIGITAL)] (Press remote controller "3" key) • Jig RCU: Code "3C"
Specified value	(G)	• 300 ± 10 mVp-p
Adjustment tool	(H)	• Jig RCU [PTU94023B] • Digit-key remote controller

(1) Observe the C OUT waveform at the measuring point (D).
(2) Record the colour bar signal (A2) in the D-VHS (B1) STD mode (B2), and play back the recorded signal.
(3) Set the VCR to the EVR (DIGITAL) mode by transmitting the code (F1) from the Jig RCU.
(4) Set the EVR (DIGITAL) address to (F2) by pressing the button of the digit-key remote controller.
(5) Adjust with the channel buttons (+, –) on the VCR (or on the remote controller) so that the Burst level of the C OUT waveform becomes the specified value (G).
(6) Release the EVR (DIGITAL) mode of the VCR by transmitting the code (F3) from the Jig RCU. (When the EVR mode is released, the adjusted data is memorized.)

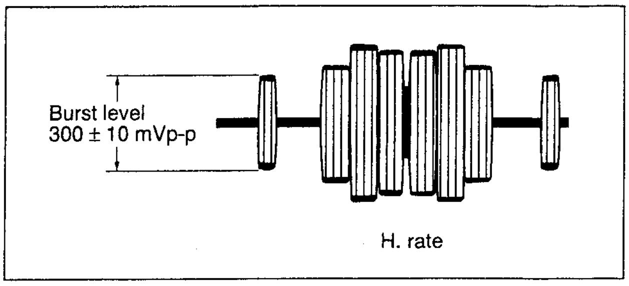


Fig. 3-6-3 CODEC S-C level

3.6.4 D-VHS REC level

Signal	(A1) (A2) (A3)	• Ext. S-input • Colour bar signal [PAL] • DF-300
Mode	(B1) (B2)	• D-VHS • REC (STD)
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• TP6001 (DVHS REC LEVEL) [Pre/Rec board]
External trigger	(E)	• TP111 (D.FF) [Pre/Rec board]
Adjustment part	(F)	• VR6021 (DVHS REC LEVEL) [Pre/Rec board]
Specified value	(G)	• 70 - 75 mVp-p

(1) Insert the D-VHS tape (A3) and record the signal (A2).
(2) Apply the external trigger signal to D.FF (E) to observe the waveform appeared at the measuring point (D).
(3) Adjust the adjustment part (F) so that the waveform signal level "a" becomes the specified value (G).

Notes: • *GND (Ground) should be taken from the Pre/Rec board shield.*
• *The signal level adjustment should be performed by setting the centre of the darkened section on the CRT bright line.*

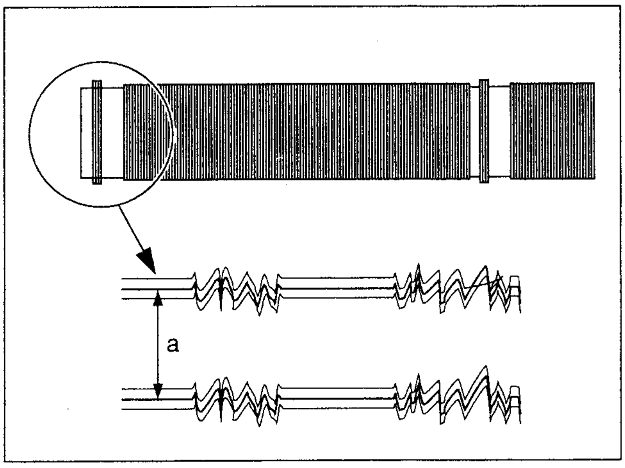


Fig. 3-6-4 D-VHS REC level

3.6.5 PLL f0

Signal	(A)	• DF-300
Mode	(B1) (B2)	• D-VHS • EE
Adjustment part	(F)	• Jig RCU: Code "60"
Specified value	(G)	• Stop mode

(1) Insert the D-VHS tape (A).
(2) Set the VCR to the Auto adjust mode by transmitting the code (F) from the Jig RCU. When the VCR enters the stop mode (G), the adjustment is completed. When the VCR enters the eject mode, repeat steps (1) and (2) again.

Notes: • *Do not connect the probe or any other jig to the terminal or shield case of the Pre/Rec board during adjustment.*
• *If auto adjustment is not completed by the above procedure, re-adjust the Adjustment Item 3.6.4 again.*

SECTION 4
CHARTS AND DIAGRAMS

NOTES OF SCHEMATIC DIAGRAM

Safety precautions
The Components identified by the symbol ⚠ are critical for safety. For continued safety, replace safety critical components only with manufacturer's recommended parts.

1. Units of components on the schematic diagram

Unless otherwise specified.

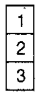
1) All resistance values are in ohm, 1/6 W, 1/8 W (refer to parts list).
   Chip resistors are 1/16 W.
   K: KΩ (1000Ω), M: MΩ (1000KΩ)
2) All capacitance values are in μF, (P: PF).
3) All inductance values are in μH, (m: mH).
4) All diodes are 1SS133, MA165 or 1N4148M (refer to parts list).

2. Indications of control voltage

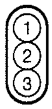
AUX : Active at high

$\overline{\text{AUX}}$ or AUX(L) : Active at low

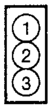
3. Interpreting Connector indications



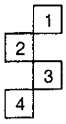
Removable connector



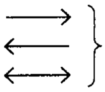
Wire soldered directly on board



Non-removable Board connector



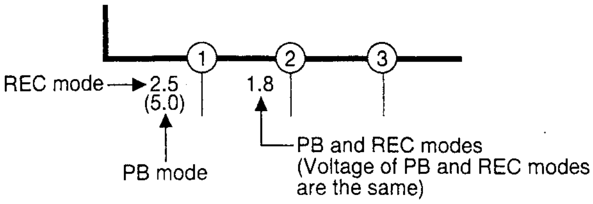
Board to Board



Connected pattern on board
The arrows indicate signal path

4. Voltage measurement

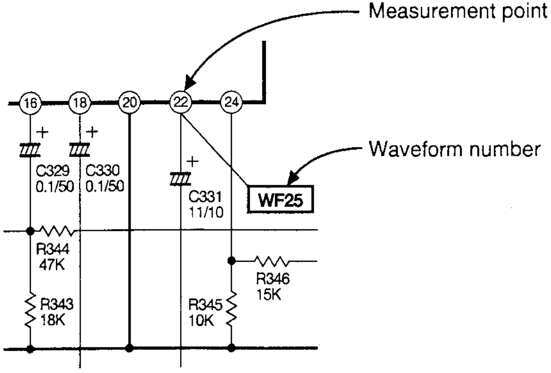
1) Video circuits
   REC : Colour bar signal in SP mode, normal VHS mode
   PB : Alignment tape, colour bar SP mode, normal VHS mode
   — : Unmeasurable or unnecessary to measure
2) Audio circuits
   REC : 1KHz, –8 dBs sine wave signal in SP mode, Normal VHS mode
   PB : REC then playback it
3) Movie Camera circuits
   Measured using a correctly illuminated gray scale or colour bar test charts in the E-E mode
4) Indication on schematic diagram
   Voltage Indications for REC and PB mode on the schematic diagram are as shown below.


1
2
3
REC mode
2.5
(5.0)
1.8
PB mode
PB and REC modes
(Voltage of PB and REC modes are the same)

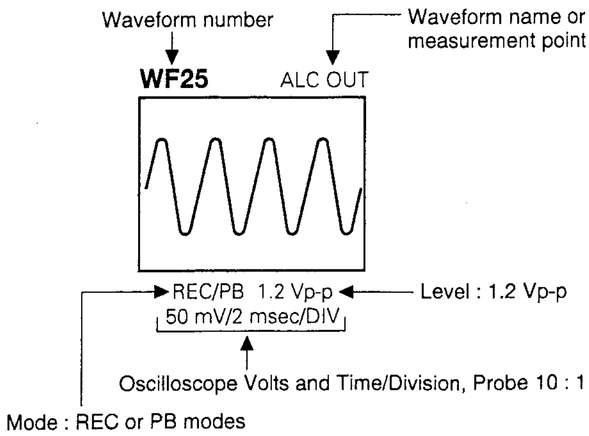
Note: If the voltages are not indicated on the schematic diagram, refer to the voltage charts.

5. Waveform measurement

1) Video circuits
   REC : Colour bar signal in SP mode, normal VHS mode
   PB : Alignment tape, colour bar SP mode, normal VHS mode
2) Audio circuits
   REC : 1KHz, –8 dBs sine wave signal in SP mode, normal VHS mode
   PB : REC then playback it
3) Movie Camera circuits
   Measured using a correctly illuminated gray scale or colour bar test chatrs in the E-E mode
4) Indication on schematic diagram
   Waveform indications on the schematic diagram are as shown below.


Measurement point
Waveform number
16
18
20
22
24
C329
0.1/50
C330
0.1/50
C331
11/10
WF25
R344
47K
R343
18K
R345
10K
R346
15K

5) Waveform indications


Waveform number
Waveform name or measurement point
WF25
ALC OUT
REC/PB 1.2 Vp-p
Level : 1.2 Vp-p
50 mV/2 msec/DIV
Oscilloscope Volts and Time/Division, Probe 10 : 1
Mode : REC or PB modes

6. Signal path Symbols

The arrows indicate the signal path as follows.

⇨	Playback signal path
▭▶	Playback and recording signal path
➡	Recording signal path (including E-E signal path)
⇨▷	Capstan servo path
➡▶	Drum servo path

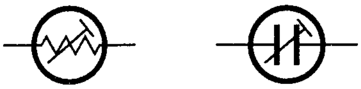
(Example)

⇨ R-Y Playback R-Y signal path

➡ Y Recording Y signal path

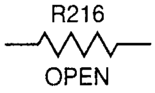
7. Indication of the parts for adjustments

The parts for the adjustments are surrounded with the circle as shown below.



8. Indication of the parts not mounted on the circuit board

"OPEN" is indicated by the parts not mounted on the circuit board.



CIRCUIT BOARD NOTES

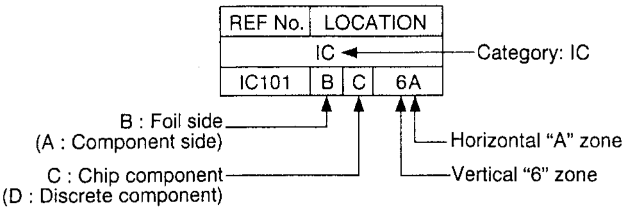
1. Foil and Component sides

1) Foil side (B side) :
Parts on the foil side seen from foil face (pattern face) are indicated.

2) Component side (A side) :
Parts on the component side seen from component face (parts face) indicated.

2. Parts location guides

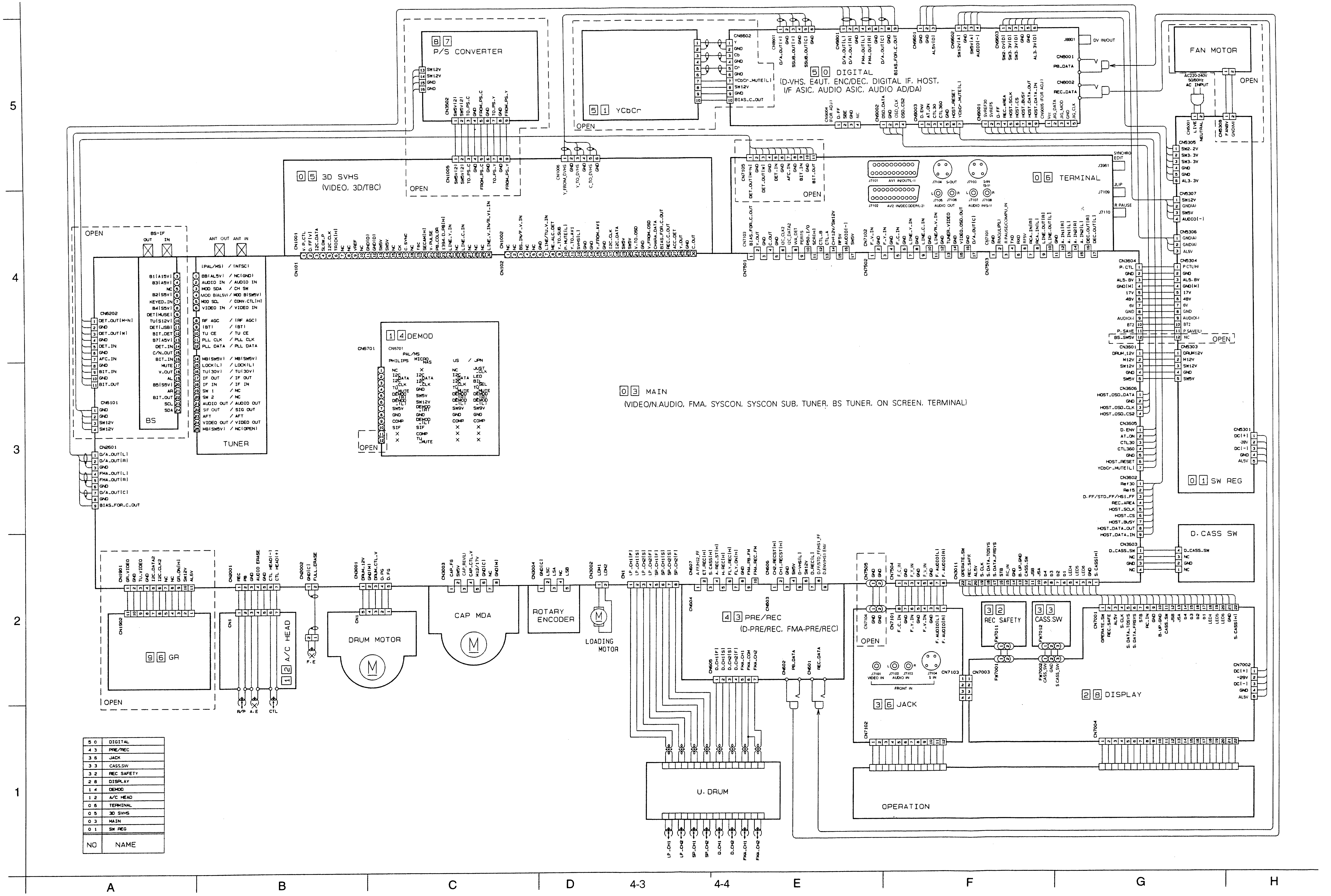
Parts location are indicated by guide scale on the circuit board.


REF No.
LOCATION
IC
Category: IC
IC101
B
C
6A
B : Foil side
(A : Component side)
C : Chip component
(D : Discrete component)
Horizontal "A" zone
Vertical "6" zone

Note:

For general information in service manual, please refer to the Service Manual of GENERAL INFORMATION Edition 4 No. 82054D (January 1994).

4.1 BOARD INTERCONNECTIONS

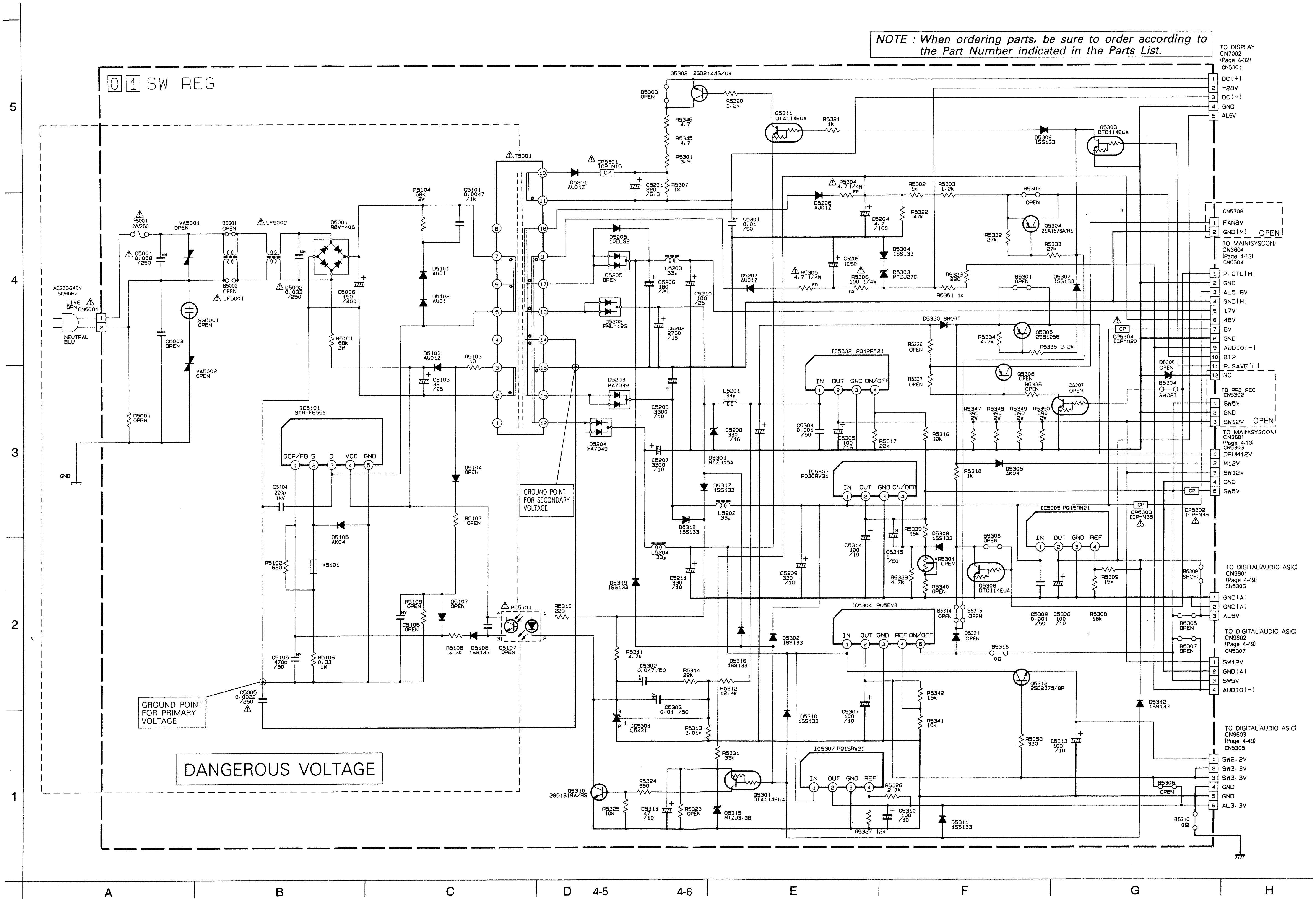


8 7 P/S CONVERTER
5 1 YCbCr
5 0 DIGITAL
(D-VHS, E4UT, ENC/DEC, DIGITAL IF, HOST, I/F ASIC, AUDIO ASIC, AUDIO AD/DA)
FAN MOTOR
AC220-240V 50/60Hz AC INPUT
OPEN
0 5 3D SVHS
(VIDEO, 3D/TBC)
0 6 TERMINAL
BS-IF
BS
TUNER
1 4 DEMOD
0 3 MAIN
(VIDEO/N.AUDIO, FMA, SYSCON, SYSCON SUB, TUNER, BS TUNER, ON SCREEN, TERMINAL)
0 1 SW REG
D. CASS SW
9 6 GR
1 2 A/C HEAD
DRUM MOTOR
CAP MDA
ROTARY ENCODER
LOADING MOTOR
4 3 PRE/REC
(D-PRE/REC, FMA-PRE/REC)
3 2 REC SAFETY
3 3 CASS.SW
3 6 JACK
2 8 DISPLAY
U. DRUM
OPERATION
5
4
3
2
1
A
B
C
D
4-3
4-4
E
F
G
H

NO	NAME
5 0	DIGITAL
4 3	PRE/REC
3 6	JACK
3 3	CASS.SW
3 2	REC SAFETY
2 8	DISPLAY
1 4	DEMOD
1 2	A/C HEAD
0 6	TERMINAL
0 5	3D SVHS
0 3	MAIN
0 1	SW REG

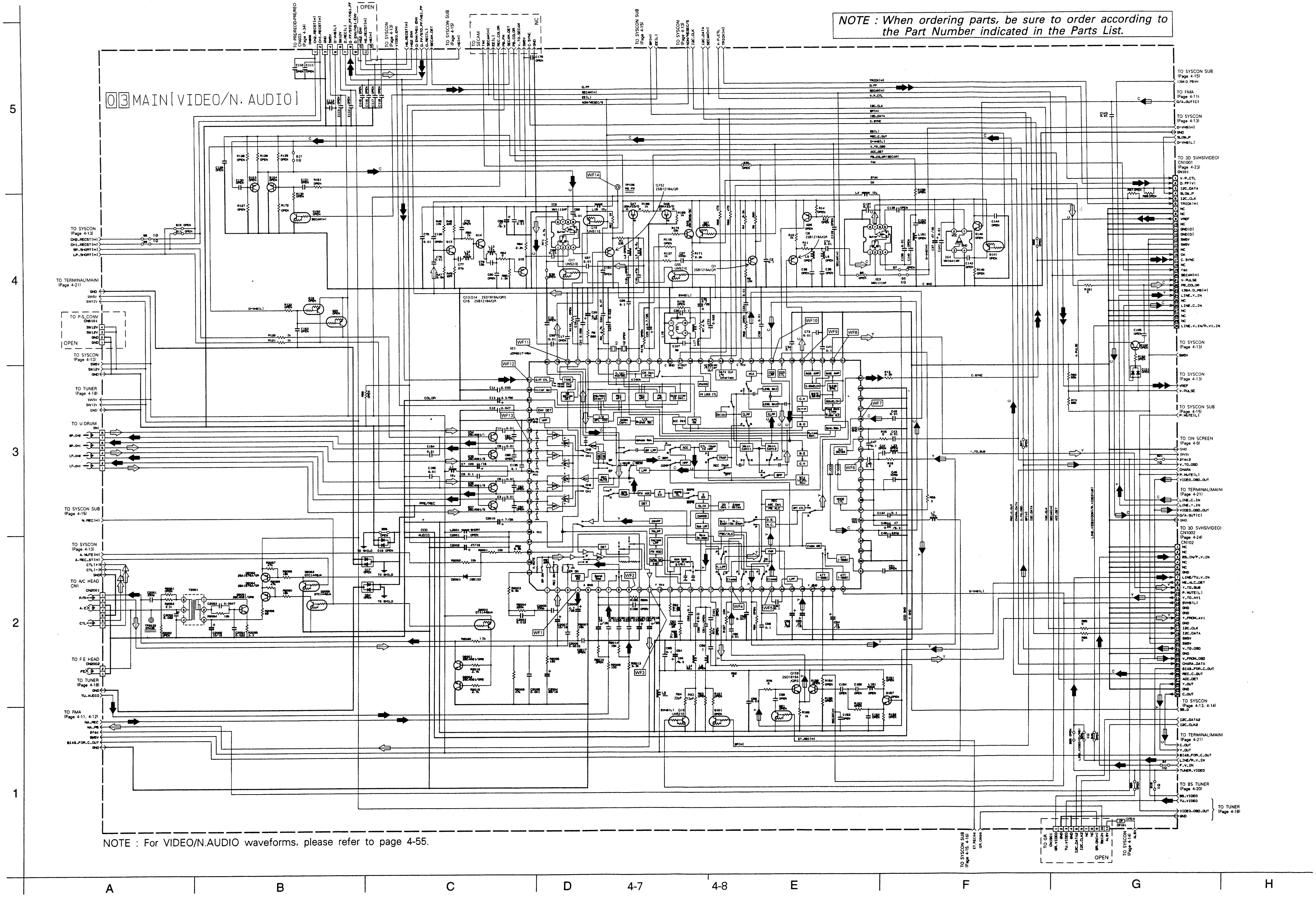
4.2 SWITCHING REGULATOR SCHEMATIC DIAGRAM

NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.



01 SW REG
DANGEROUS VOLTAGE
GROUND POINT FOR PRIMARY VOLTAGE
GROUND POINT FOR SECONDARY VOLTAGE
AC220-240V 50/60Hz
LIVE BRN
NEUTRAL BLU
CN5001
GND
F5001 2A/250
VA5001 OPEN
B5001 OPEN
B5002 OPEN
LF5002
LF5001
C5001 0.068 /250
C5002 0.033 /250
C5003 OPEN
SG5001 OPEN
VA5002 OPEN
R5001 OPEN
D5001 RBV-406
C5006 150 /400
R5101 68k 2W
R5104 68k 2W
C5101 0.0047 /1k
D5101 AU01
D5102 AU01
D5103 AU01Z
C5103 39 /25
R5103 10
T5001
IC5101 STR-F6552
OCP/FB S D VCC GND
C5104 220p 1KV
D5105 AK04
R5102 680
K5101
C5105 470p /50
R5106 0.33 1W
C5005 0.0022 /250
R5109 OPEN
C5106 OPEN
D5107 OPEN
D5104 OPEN
R5107 OPEN
R5108 3.3k
D5106 1SS133
C5107 OPEN
PC5101
R5310 220
CP5301 ICP-N15
D5201 AU01Z
C5201 220 /6.3
R5307 1k
Q5302 2SD2144S/UV
B5303 OPEN
R5320 2.2k
R5346 4.7
R5345 4.7
R5301 3.9
Q5311 DTA114EUA
R5321 1k
D5309 1SS133
Q5303 DTC114EUA
D5208 10EL52
D5205 OPEN
L5203 33µ
C5206 180 /25
C5210 100 /25
C5202 2700 /16
D5202 FML-12S
D5203 MA7D49
D5204 MA7D49
C5203 3300 /10
C5207 3300 /10
C5301 0.01 /50
D5207 AU01Z
D5206 AU01Z
R5304 4.7 1/4W FR
C5204 4.7 /100
C5205 18/50
R5305 4.7 1/4W FR
R5306 100 1/4W FR
D5304 1SS133
D5303 MTZJ27C
R5302 1k
R5303 1.2k
R5322 47k
B5302 OPEN
Q5304 2SA1576A/RS
R5332 27k
R5333 27k
R5329 820
R5351 1k
B5301 OPEN
D5307 1SS133
D5320 SHORT
R5336 OPEN
R5337 OPEN
R5334 4.7k
Q5305 2SB1256
R5335 2.2k
Q5306 OPEN
R5338 OPEN
Q5307 OPEN
IC5302 PQ12RF21
IN OUT GND ON/OFF
L5201 33µ
C5208 330 /16
D5301 MTZJ15A
C5304 0.001 /50
C5305 100 /16
R5317 22k
R5316 10k
R5347 390 2W
R5348 390 2W
R5349 390 2W
R5350 390 2W
CP5304 ICP-N20
D5306 OPEN
B5304 SHORT
D5317 1SS133
L5202 33µ
D5318 1SS133
L5204 33µ
C5211 330 /10
C5209 330 /10
IC5303 PQ30RV31
IN OUT GND ON/OFF
R5318 1k
D5305 AK04
C5314 100 /10
C5315 1 /50
R5339 15k
D5308 1SS133
VR5301 OPEN
R5328 4.7k
R5340 OPEN
B5308 OPEN
Q5308 DTC114EUA
IC5305 PQ15RW21
IN OUT GND REF
CP5303 ICP-N38
CP5302 ICP-N38
R5309 15k
C5309 0.001 /50
C5308 100 /10
R5308 16k
B5309 SHORT
D5319 1SS133
R5311 4.7k
C5302 0.047/50
R5314 22k
D5316 1SS133
R5312 12.4k
C5303 0.01 /50
IC5301 L5431
R5313 3.01k
D5302 1SS133
IC5304 PQ5EV3
IN OUT GND REF ON/OFF
B5314 OPEN
B5315 OPEN
D5321 OPEN
B5316 0Ω
Q5312 2SD2375/QP
R5342 16k
R5341 10k
D5310 1SS133
C5307 100 /10
R5358 330
C5313 100 /10
D5312 1SS133
B5305 OPEN
B5307 OPEN
R5331 33k
Q5301 DTA114EUA
IC5307 PQ15RW21
IN OUT GND REF
R5326 2.7k
C5310 100 /10
R5327 12k
D5311 1SS133
Q5310 2SD1819A/RS
R5324 560
R5325 10k
C5311 47 /10
R5323 OPEN
D5315 MTZJ3.3B
B5306 OPEN
B5310 0Ω
TO DISPLAY CN7002 (Page 4-32) CN5301
1 DC(+)
2 -28V
3 DC(-)
4 GND
5 AL5V
CN5308
1 FAN8V
2 GND(M) OPEN
TO MAIN(SYSCON) CN3604 (Page 4-13) CN5304
1 P.CTL(H)
2 GND
3 AL5.8V
4 GND(M)
5 17V
6 48V
7 6V
8 GND
9 AUDIO(-)
10 BT2
11 P.SAVE(L)
12 NC
TO PRE REC CN5302
1 SW5V
2 GND
3 SW12V OPEN
TO MAIN(SYSCON) CN3601 (Page 4-13) CN5303
1 DRUM12V
2 M12V
3 SW12V
4 GND
5 SW5V
TO DIGITAL(AUDIO ASIC) CN9601 (Page 4-49) CN5306
1 GND(A)
2 GND(A)
3 AL5V
TO DIGITAL(AUDIO ASIC) CN9602 (Page 4-49) CN5307
1 SW12V
2 GND(A)
3 SW5V
4 AUDIO(-)
TO DIGITAL(AUDIO ASIC) CN9603 (Page 4-49) CN5305
1 SW2.2V
2 SW3.3V
3 SW3.3V
4 GND
5 GND
6 AL3.3V
1 2 3 4 5
A B C D 4-5 4-6 E F G H

4.3 VIDEO/N.AUDIO SCHEMATIC DIAGRAM

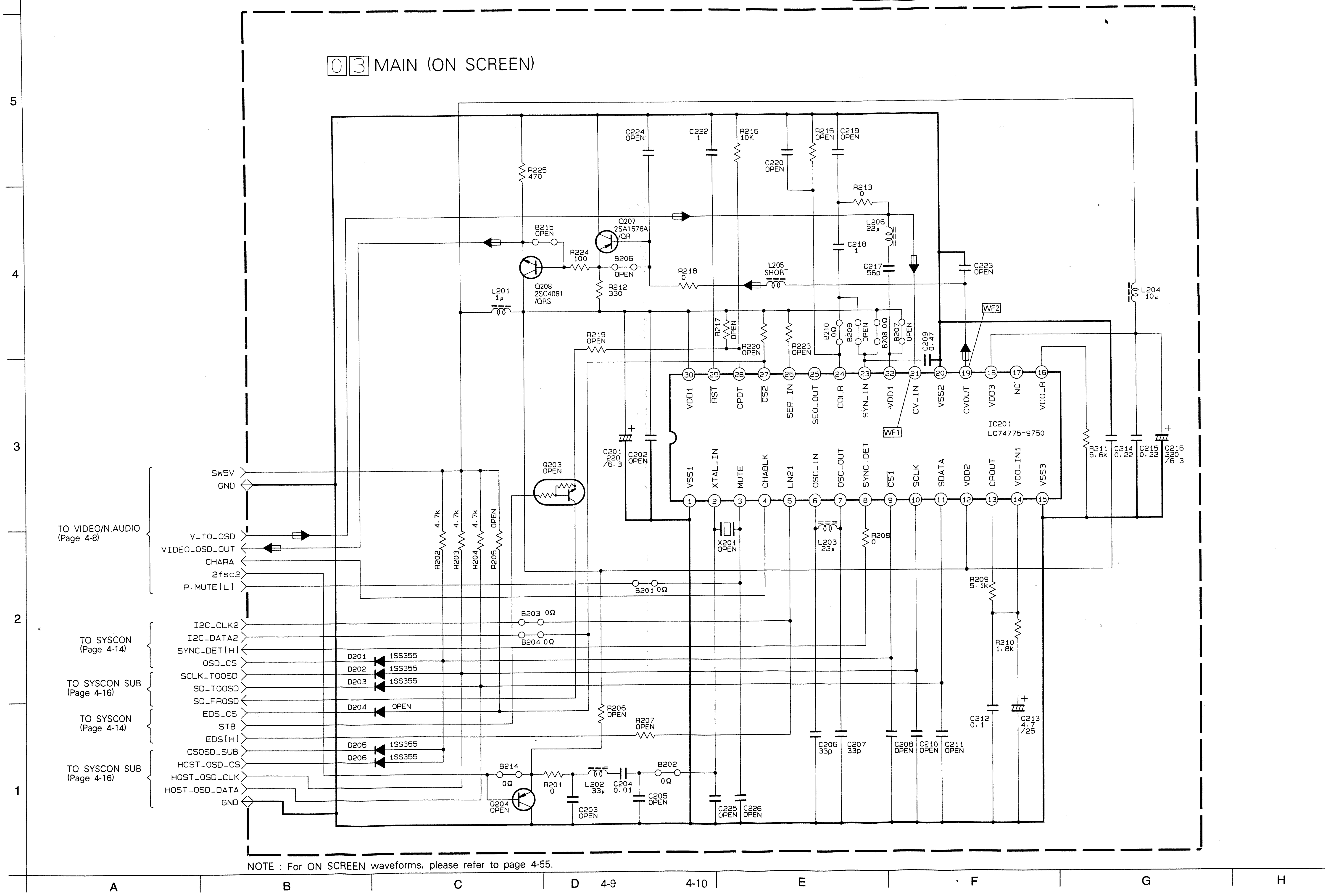

03 MAIN [VIDEO/N. AUDIO]
TO SYSCON (Page 4-13)
TO TERMINAL(MAIN) (Page 4-21)
TO P.S_CONV CN5101
OPEN
TO TUNER (Page 4-18)
TO U DRUM
TO SYSCON SUB (Page 4-15)
TO A/C HEAD CN1
TO F.E HEAD CN2002
TO FMA (Page 4-11, 4-12)
TO SYSCON SUB (Page 4-15)
TO FMA (Page 4-11)
TO 3D SVHS(VIDEO) CN1001 (Page 4-23)
TO ON SCREEN (Page 4-9)
TO 3D SVHS(VIDEO) CN1002 (Page 4-24)
TO BS TUNER (Page 4-20)
TO GR
TO SECAM
NC
WF1
WF2
WF3
WF4
WF5
WF6
WF7
WF8
WF9
WF10
WF11
WF12
WF13
WF14
1
2
3
4
5
A
B
C
D
E
F
G
H

NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.

NOTE : For VIDEO/N.AUDIO waveforms, please refer to page 4-55.

4.4 ON SCREEN SCHEMATIC DIAGRAM

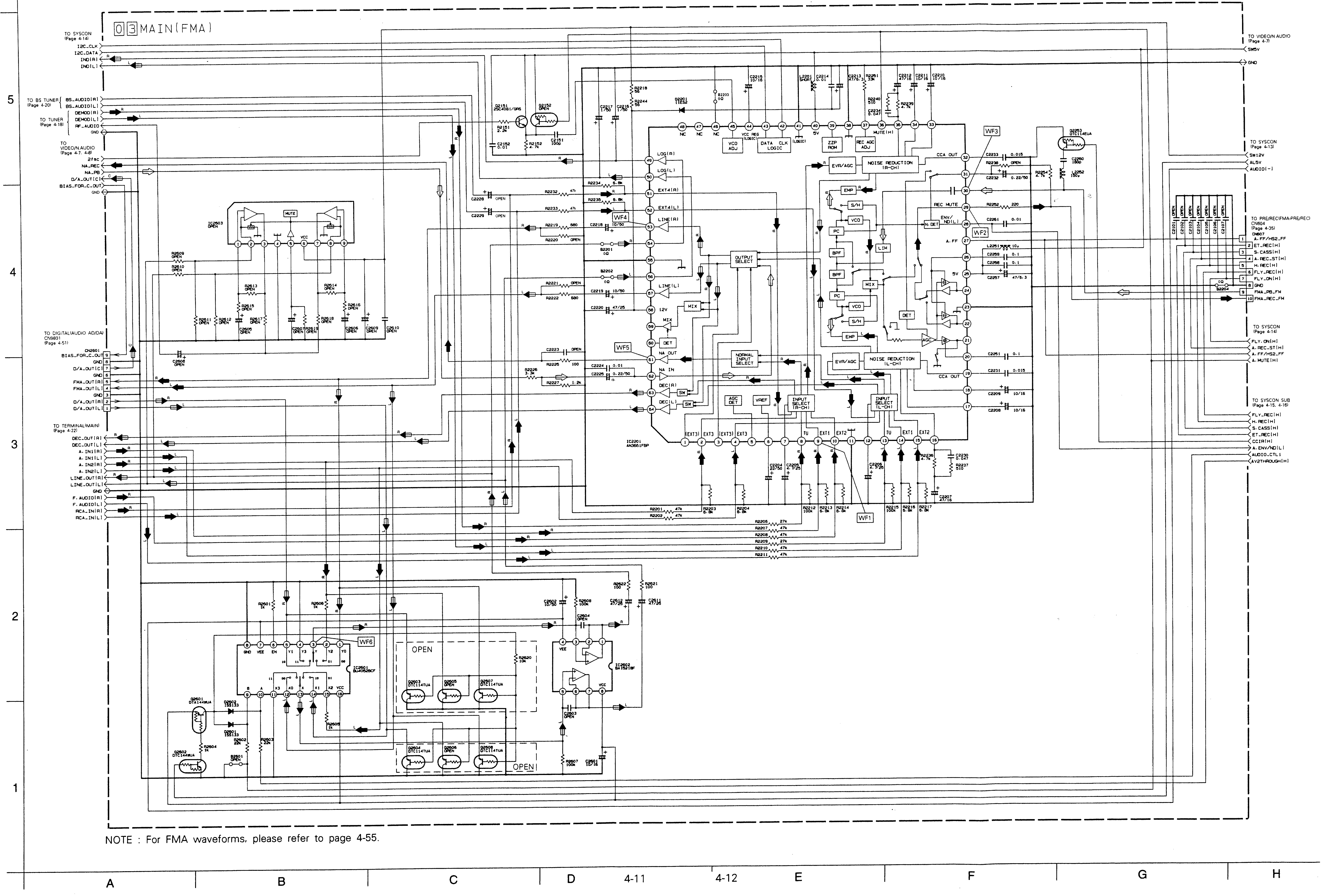
NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.


03 MAIN (ON SCREEN)
IC201
LC74775-9750
1 VSS1
2 XTAL_IN
3 MUTE
4 CHABLK
5 LN21
6 OSC_IN
7 OSC_OUT
8 SYNC_DET
9 CS1
10 SCLK
11 SDATA
12 VDD2
13 CROUT
14 VCO_IN1
15 VSS3
16 VCO_R
17 NC
18 VDD3
19 CVOUT
20 VSS2
21 CV_IN
22 VDD1
23 SYN_IN
24 CDLR
25 SEO_OUT
26 SEP_IN
27 CS2
28 CPDT
29 RST
30 VDD1
WF1
WF2
Q207 2SA1576A /QR
Q208 2SC4081 /QRS
Q203 OPEN
Q204 OPEN
R225 470
R224 100
R212 330
R218 0
R219 OPEN
R220 OPEN
R217 OPEN
R223 OPEN
R216 10K
R215 OPEN
R213 0
R211 5.6K
R209 5.1k
R210 1.8k
R208 0
R206 OPEN
R207 OPEN
R201 0
R202 4.7k
R203 4.7k
R204 4.7k
R205 OPEN
C224 OPEN
C222 1
C220 OPEN
C219 OPEN
C218 1
C217 56p
C223 OPEN
C209 0.47
C201 220 /6.3
C202 OPEN
C214 0.22
C215 0.22
C216 220 /6.3
C206 33p
C207 33p
C208 OPEN
C210 OPEN
C211 OPEN
C212 0.1
C213 4.7 /25
C203 OPEN
C204 0.01
C205 OPEN
C225 OPEN
C226 OPEN
L201 1μ
L202 33μ
L203 22μ
L204 10μ
L205 SHORT
L206 22μ
X201 OPEN
B215 OPEN
B206 OPEN
B210 0Ω
B209 OPEN
B208 0Ω
B207 OPEN
B201 0Ω
B203 0Ω
B204 0Ω
B214 0Ω
B202 0Ω
D201 1SS355
D202 1SS355
D203 1SS355
D204 OPEN
D205 1SS355
D206 1SS355
SW5V
GND
V_TO_OSD
VIDEO_OSD_OUT
CHARA
2fsc2
P.MUTE[L]
TO VIDEO/N.AUDIO (Page 4-8)
I2C_CLK2
I2C_DATA2
SYNC_DET[H]
TO SYSCON (Page 4-14)
OSD_CS
SCLK_TOOSD
SD_TOOSD
SD_FROSD
TO SYSCON SUB (Page 4-16)
EDS_CS
STB
EDS[H]
TO SYSCON (Page 4-14)
CSOSD_SUB
HOST_OSD_CS
HOST_OSD_CLK
HOST_OSD_DATA
GND
TO SYSCON SUB (Page 4-16)
5
4
3
2
1
A
B
C
D
E
F
G
H

NOTE : For ON SCREEN waveforms, please refer to page 4-55.

4.5 FMA SCHEMATIC DIAGRAM

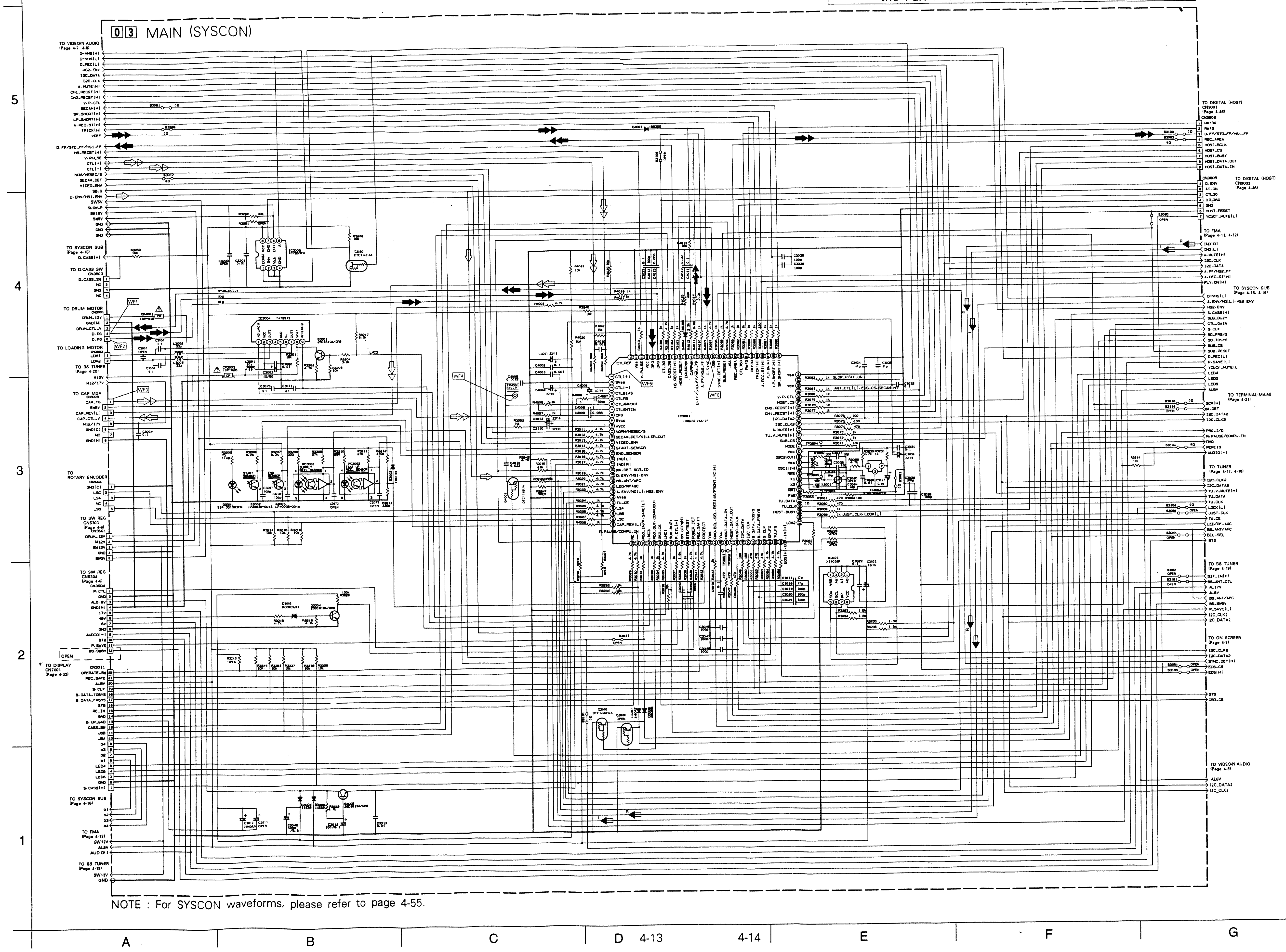
NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.


03 MAIN(FMA)
TO SYSCON
(Page 4-14)
I2C_CLK
I2C_DATA
IND(R)
IND(L)
TO BS TUNER
(Page 4-20)
BS_AUDIO(R)
BS_AUDIO(L)
TO TUNER
(Page 4-18)
DEMOD(R)
DEMOD(L)
RF_AUDIO
GND
TO
VIDEO/N.AUDIO
(Page 4-7, 4-8)
2fsc
NA_REC
NA_PB
D/A_OUT(C)
BIAS_FOR_C_OUT
GND
TO DIGITAL(AUDIO AD/DA)
CN9801
(Page 4-51)
CN2601
BIAS_FOR_C_OUT 9
GND 8
D/A_OUT(C) 7
GND 6
FMA_OUT(R) 5
FMA_OUT(L) 4
GND 3
D/A_OUT(R) 2
D/A_OUT(L) 1
TO TERMINAL(MAIN)
(Page 4-22)
DEC_OUT(R)
DEC_OUT(L)
A. IN1(R)
A. IN1(L)
A. IN2(R)
A. IN2(L)
LINE_OUT(R)
LINE_OUT(L)
GND
F. AUDIO(R)
F. AUDIO(L)
RCA_IN(R)
RCA_IN(L)
TO VIDEO/N.AUDIO
(Page 4-7)
SW5V
GND
TO SYSCON
(Page 4-13)
SW12V
AL5V
AUDIO(-)
TO PRE/REC(FMA-PRE/REC)
CN604
(Page 4-35)
CN607
1 A. FF/HS2_FF
2 ET_REC(H)
3 S. CASS(H)
4 A. REC_ST(H)
5 H. REC(H)
6 FLY_REC(H)
7 FLY_ON(H)
8 GND
9 FMA_PB_FM
10 FMA_REC_FM
TO SYSCON
(Page 4-14)
FLY. ON(H)
A. REC_ST(H)
A. FF/HS2_FF
A. MUTE(H)
TO SYSCON SUB
(Page 4-15, 4-16)
FLY_REC(H)
H. REC(H)
S. CASS(H)
ET_REC(H)
CCIR(H)
A. ENV/ND(L)
AUDIO_CTL1
AV2THROUGH(H)
IC2201
AN3651FBP
IC2601
BU4052BCF
IC2602
BA15218F
IC2603
OPEN
WF1
WF2
WF3
WF4
WF5
WF6
OUTPUT SELECT
NORMAL INPUT SELECT
INPUT SELECT (R-CH)
INPUT SELECT (L-CH)
NOISE REDUCTION (R-CH)
NOISE REDUCTION (L-CH)
EVR/AGC
VCO ADJ
DATA CLK LOGIC
ZZP ROM
REC AGC ADJ
AGC DET
VREF
MUTE
OPEN
5
4
3
2
1
A
B
C
D
E
F
G
H

NOTE : For FMA waveforms, please refer to page 4-55.

4.6 SYSCON SCHEMATIC DIAGRAM

NOTE : *When ordering parts, be sure to order according to the Part Number indicated in the Parts List.*

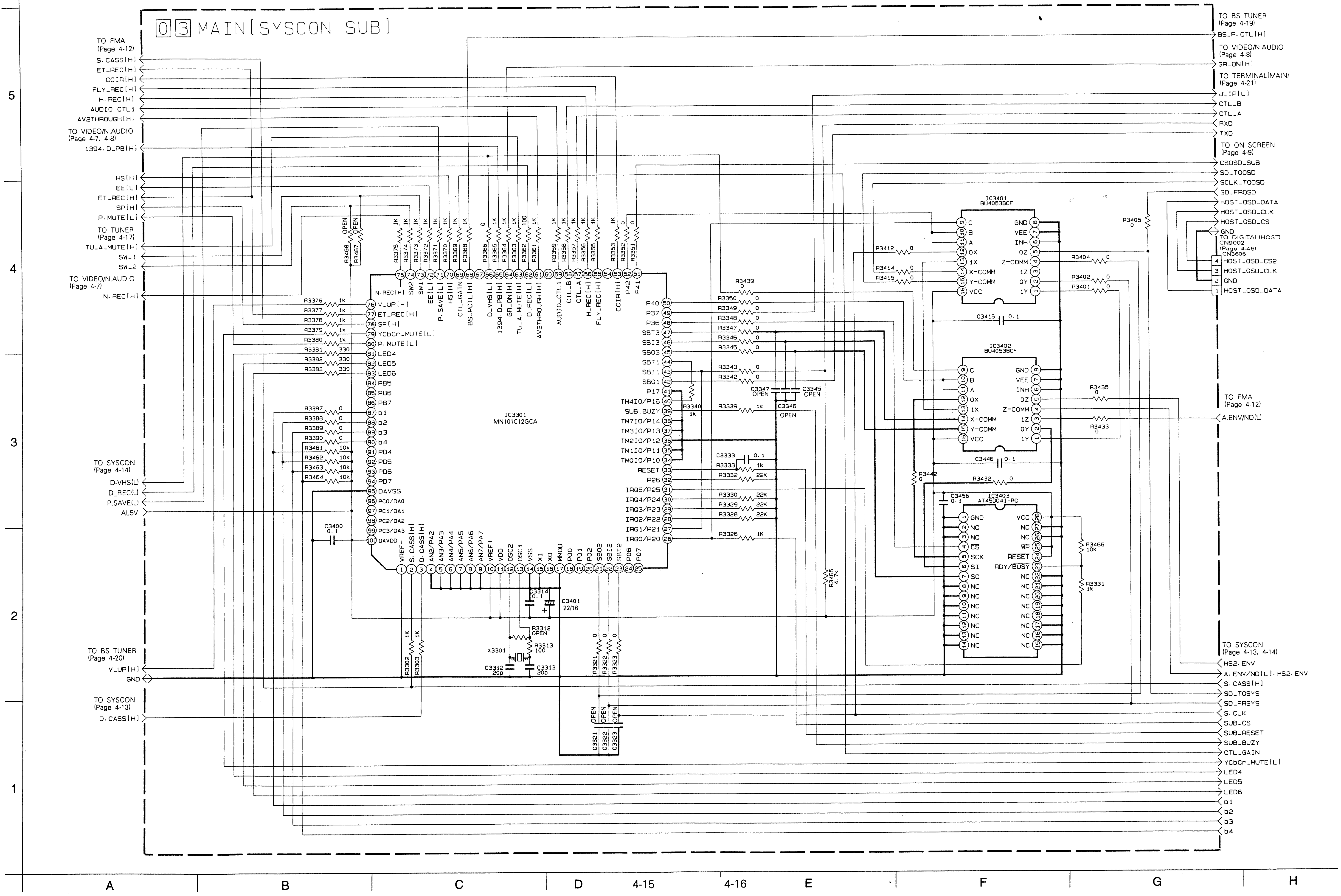


03 MAIN (SYSCON)
TO VIDEO/N AUDIO
TO SYSCON SUB
TO D.CASS SW
TO DRUM MOTOR
TO LOADING MOTOR
TO BS TUNER
TO CAP MDA
TO ROTARY ENCODER
TO SW REG
TO DISPLAY CN7001
TO FMA
TO DIGITAL (HOST) CN9001
TO DIGITAL (HOST) CN9003
TO TERMINAL(MAIN)
TO TUNER
TO ON SCREEN
IC3001
IC3004
IC3005
IC3002
IC3003
WF1
WF2
WF3
WF4
WF5
WF6
OPEN
5
4
3
2
1
A
B
C
D
E
F
G
H

NOTE : For SYSCON waveforms, please refer to page 4-55.

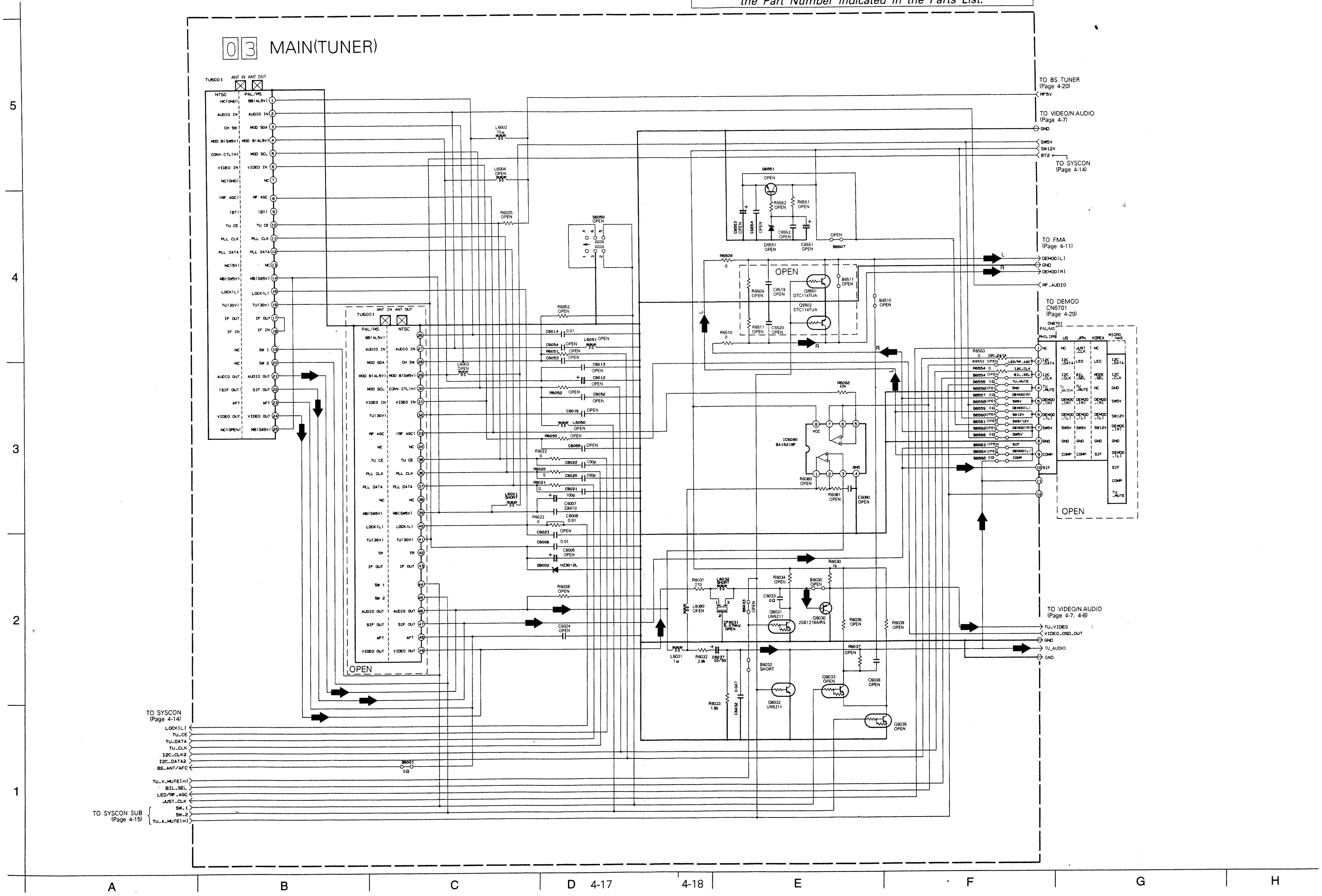
4.7 SYSCON SUB SCHEMATIC DIAGRAM

NOTE : *When ordering parts, be sure to order according to the Part Number indicated in the Parts List.*


03 MAIN[SYSCON SUB]
TO FMA (Page 4-12)
S.CASS[H]
ET_REC[H]
CCIR[H]
FLY_REC[H]
H.REC[H]
AUDIO_CTL1
AV2THROUGH[H]
TO VIDEO/N.AUDIO (Page 4-7, 4-8)
1394.D_PB[H]
HS[H]
EE[L]
ET_REC[H]
SP[H]
P.MUTE[L]
TO TUNER (Page 4-17)
TU_A_MUTE[H]
SW_1
SW_2
TO VIDEO/N.AUDIO (Page 4-7)
N.REC[H]
TO SYSCON (Page 4-14)
D-VHS(L)
D_REC(L)
P.SAVE(L)
AL5V
TO BS TUNER (Page 4-20)
V_UP[H]
GND
TO SYSCON (Page 4-13)
D.CASS[H]
TO BS TUNER (Page 4-19)
BS_P.CTL[H]
TO VIDEO/N.AUDIO (Page 4-8)
GR_ON[H]
TO TERMINAL(MAIN) (Page 4-21)
JLIP[L]
CTL_B
CTL_A
RXD
TXD
TO ON SCREEN (Page 4-9)
CSOSD_SUB
SD_TOOSD
SCLK_TOOSD
SD_FROSD
HOST_OSD_DATA
HOST_OSD_CLK
HOST_OSD_CS
GND
TO DIGITAL(HOST) CN9002 (Page 4-46) CN3606
HOST_OSD_CS2
HOST_OSD_CLK
GND
HOST_OSD_DATA
TO FMA (Page 4-12)
A.ENV/ND(L)
TO SYSCON (Page 4-13, 4-14)
HS2.ENV
A.ENV/ND[L].HS2.ENV
S.CASS[H]
SD_TOSYS
SD_FRSYS
S.CLK
SUB_CS
SUB_RESET
SUB_BUZY
CTL_GAIN
YCbCr_MUTE[L]
LED4
LED5
LED6
D1
D2
D3
D4
IC3301 MN101C12GCA
IC3401 BU4053BCF
IC3402 BU4053BCF
IC3403 AT45DD41-RC
X3301
C3401 22/16
R3465 4.7k
R3466 10K
R3331 1k
R3405 0

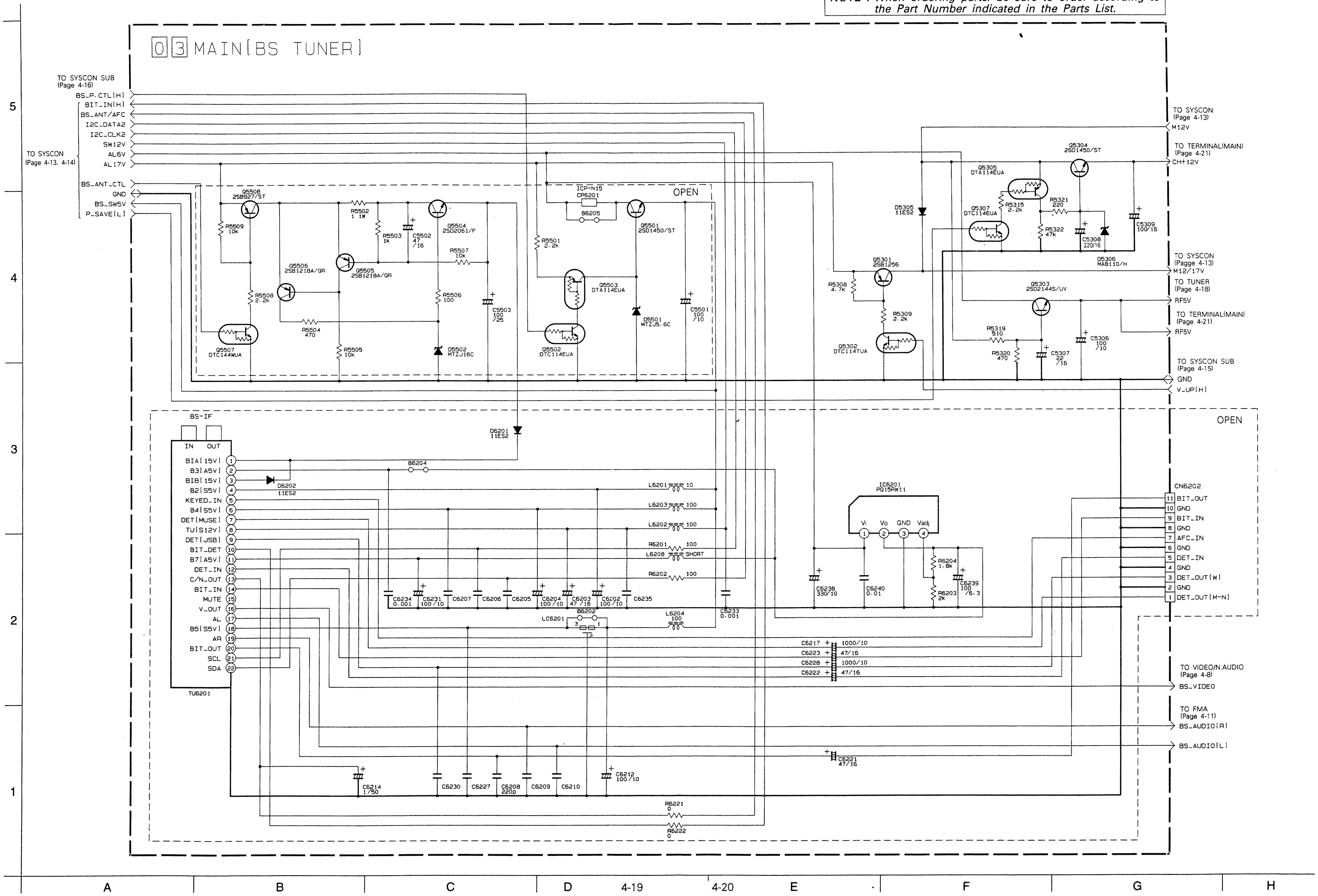
4.8 TUNER SCHEMATIC DIAGRAM

NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.


03 MAIN(TUNER)
TU6001
ANT IN
ANT OUT
NTSC
PAL/MS
TO BS TUNER (Page 4-20)
RF5V
TO VIDEO/N.AUDIO (Page 4-7)
GND
SW5V
SW12V
BT2
TO SYSCON (Page 4-14)
TO FMA (Page 4-11)
DEMOD(L)
DEMOD(R)
RF_AUDIO
TO DEMOD CN6701 (Page 4-29)
CN6701
OPEN
IC6080 BA15218F
Q6501 DTC114TUA
Q6502 DTC114TUA
Q6030 2SB1218A/RS
Q6031 UN5211
Q6032 UN5211
Q6033 OPEN
Q6035 OPEN
Q6661 OPEN
D6002 HZ30-2L
CF6031 5.07MHz OPEN
S6050 OPEN
TO VIDEO/N.AUDIO (Page 4-7, 4-8)
TU_VIDEO
VIDEO_OSD_OUT
GND
TU_AUDIO
GND
TO SYSCON (Page 4-14)
LOCK(L)
TU_CE
TU_DATA
TU_CLK
I2C_CLK2
I2C_DATA2
BS_ANT/AFC
TU_V_MUTE(H)
BIL_SEL
LED/RF_AGC
JUST_CLK
TO SYSCON SUB (Page 4-15)
SW_1
SW_2
TU_A_MUTE(H)
B6001 0Ω
5
4
3
2
1
A
B
C
D
E
F
G
H

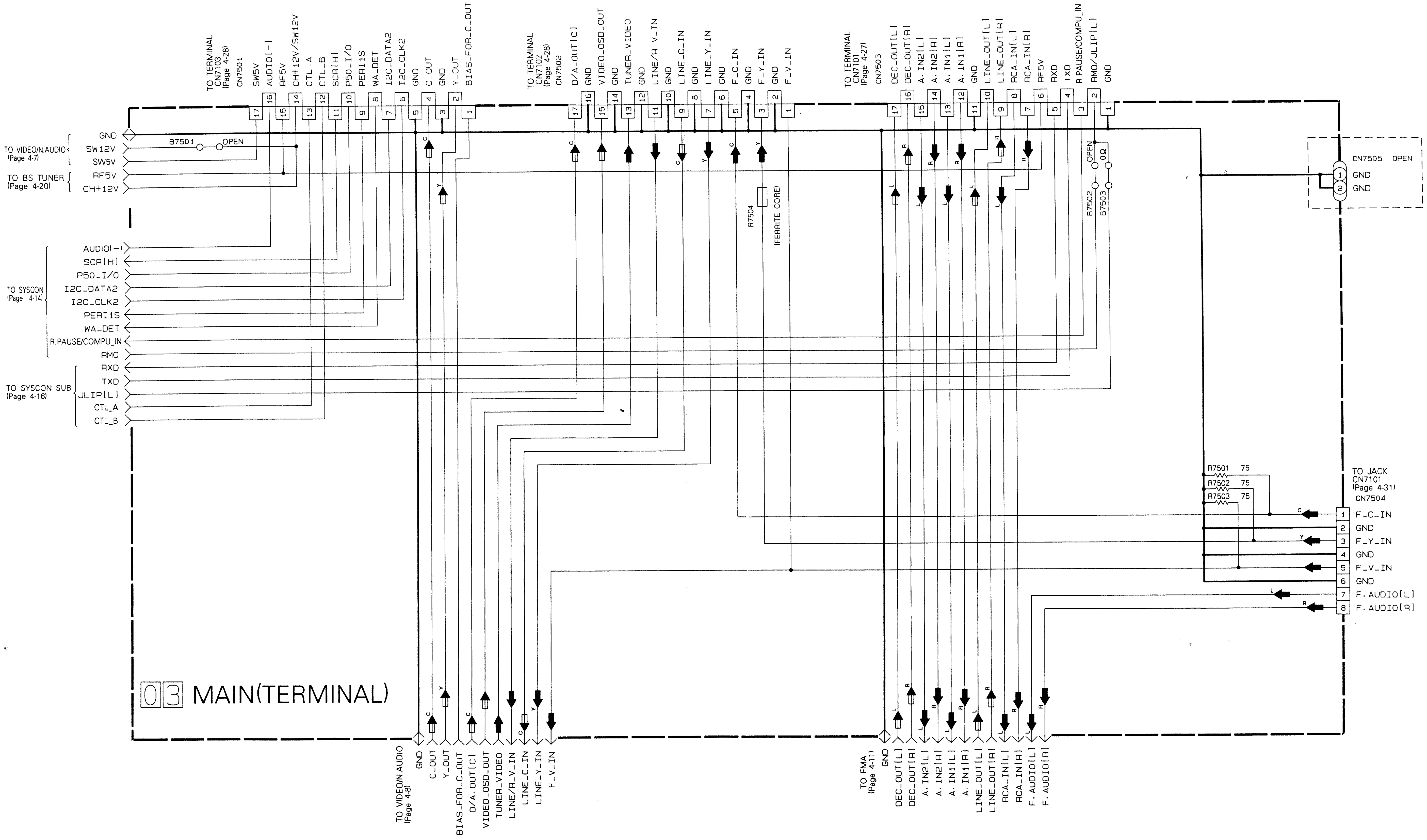
4.9 BS TUNER SCHEMATIC DIAGRAM

NOTE : *When ordering parts, be sure to order according to the Part Number indicated in the Parts List.*


03 MAIN(BS TUNER)
TO SYSCON SUB (Page 4-16)
BS_P.CTL(H)
TO SYSCON (Page 4-13, 4-14)
BIT_IN(H)
BS_ANT/AFC
I2C_DATA2
I2C_CLK2
SW12V
AL6V
AL17V
BS_ANT_CTL
GND
BS_SW5V
P_SAVE(L)
OPEN
Q5508 2SB927/ST
R5509 10k
R5502 1 1W
R5503 1k
C5502 47 /16
Q5504 2SD2061/F
R5507 10k
Q5505 2SB1218A/QR
R5508 2.2k
R5504 470
R5505 10k
R5506 100
C5503 100 /25
Q5507 DTC144WUA
D5502 MTZJ16C
ICP-N15 CP6201
B6205
R5501 2.2k
Q5501 2SD1450/ST
Q5503 DTA114EUA
Q5502 DTC114EUA
D5501 MTZJ5.6C
C5501 100 /10
TO SYSCON (Page 4-13)
M12V
TO TERMINAL(MAIN) (Page 4-21)
CH+12V
Q5304 2SD1450/ST
Q5305 DTA114EUA
Q5307 DTC114EUA
R5315 2.2k
R5321 220
R5322 47k
C5308 220/16
D5306 MA8110/H
C5309 100/16
D5305 11ES2
Q5301 2SB1256
R5308 4.7k
R5309 2.2k
Q5302 DTC114TUA
TO SYSCON (Pagge 4-13)
M12/17V
TO TUNER (Page 4-18)
RF5V
Q5303 2SD2144S/UV
TO TERMINAL(MAIN) (Page 4-21)
RF5V
R5319 510
R5320 470
C5307 22 /16
C5306 100 /10
TO SYSCON SUB (Page 4-15)
GND
V_UP(H)
BS-IF
IN
OUT
D6201 11ES2
B6204
D6202 11ES2
BIA(15V) 1
B3(A5V) 2
BIB(15V) 3
B2(S5V) 4
KEYED_IN 5
B4(S5V) 6
DET(MUSE) 7
TU(S12V) 8
DET(JSB) 9
BIT_DET 10
B7(A5V) 11
DET_IN 12
C/N_OUT 13
BIT_IN 14
MUTE 15
V_OUT 16
AL 17
B5(S5V) 18
AR 19
BIT_OUT 20
SCL 21
SDA 22
TU6201
L6201 10
L6203 100
L6202 100
R6201 100
L6208 SHORT
R6202 100
C6234 0.001
C6231 100/10
C6207
C6206
C6205
C6204 100/10
C6203 47/16
C6202 100/10
C6235
B6202
LC6201
L6204 100
C6233 0.001
IC6201 PQ15RW11
Vi
Vo
GND
Vadj
R6204 1.8k
R6203 2k
C6239 100 /6.3
C6238 330/10
C6240 0.01
CN6202
11 BIT_OUT
10 GND
9 BIT_IN
8 GND
7 AFC_IN
6 GND
5 DET_IN
4 GND
3 DET_OUT(W)
2 GND
1 DET_OUT(M-N)
C6217 1000/10
C6223 47/16
C6228 1000/10
C6222 47/16
TO VIDEO/N.AUDIO (Page 4-8)
BS_VIDEO
TO FMA (Page 4-11)
BS_AUDIO(R)
BS_AUDIO(L)
C6221 47/16
C6214 1/50
C6230
C6227
C6208 220p
C6209
C6210
C6212 100/10
R6221 0
R6222 0
5
4
3
2
1
A
B
C
D
E
F
G
H

4.10 TERMINAL(MAIN) SCHEMATIC DIAGRAM

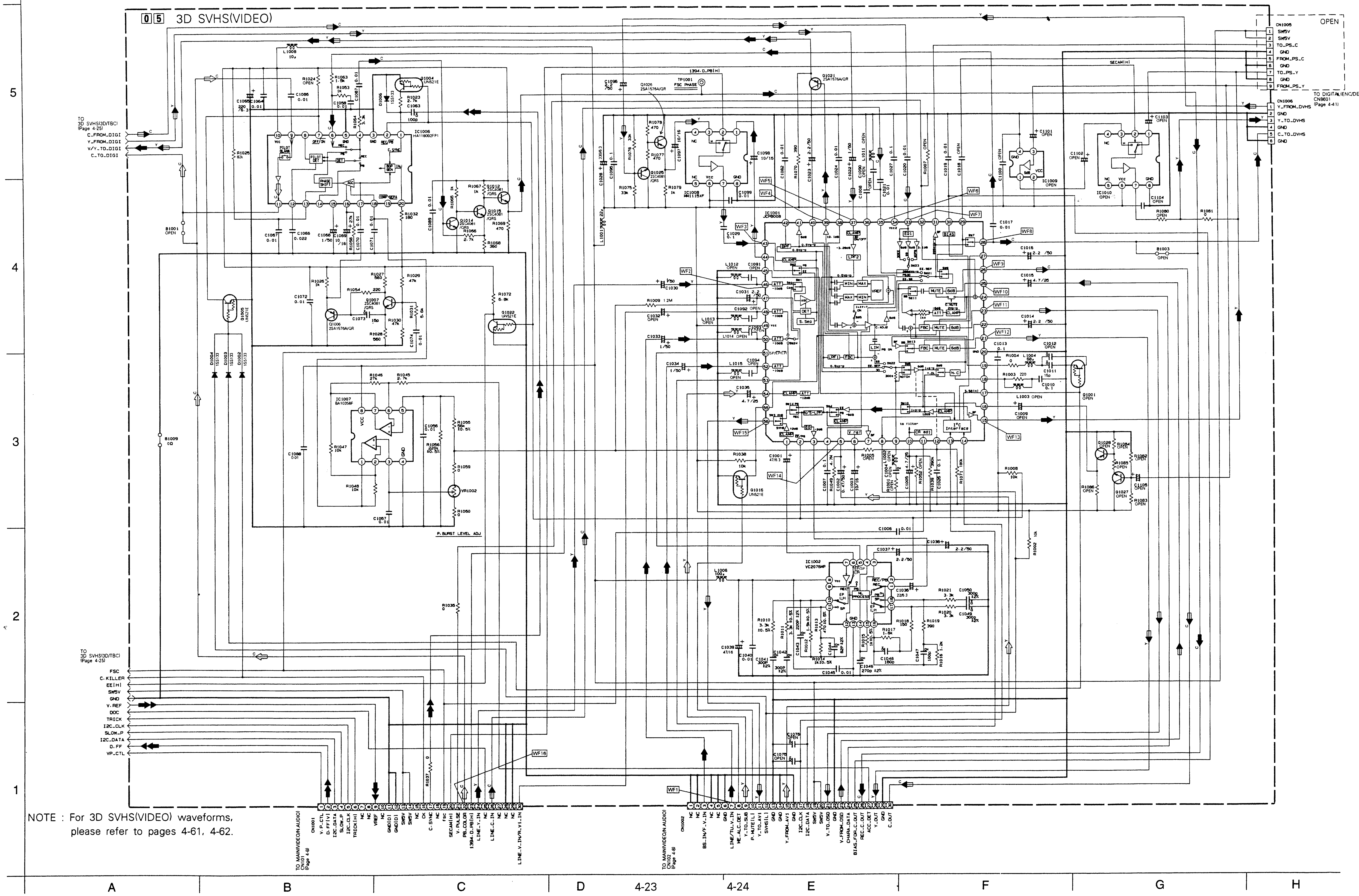
NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.



TO TERMINAL CN7103 (Page 4-28) CN7501
SW5V
AUDIO[-]
RF5V
CH+12V/SW12V
CTL_A
CTL_B
SCR[H]
P50_I/O
PERI1S
WA_DET
I2C_DATA2
I2C_CLK2
GND
C_OUT
GND
Y_OUT
BIAS_FOR_C_OUT
TO TERMINAL CN7102 (Page 4-28) CN7502
D/A_OUT[C]
GND
VIDEO_OSD_OUT
GND
TUNER_VIDEO
GND
LINE/R_V_IN
GND
LINE_C_IN
GND
LINE_Y_IN
GND
F_C_IN
GND
F_Y_IN
GND
F_V_IN
TO TERMINAL CN7101 (Page 4-27) CN7503
DEC_OUT[L]
DEC_OUT[R]
A.IN2[L]
A.IN2[R]
A.IN1[L]
A.IN1[R]
GND
LINE_OUT[L]
LINE_OUT[R]
RCA_IN[L]
RCA_IN[R]
RF5V
RXD
TXD
R.PAUSE/COMPU_IN
RMO/JLIP[L]
GND
TO VIDEO/N.AUDIO (Page 4-7)
GND
SW12V
SW5V
TO BS TUNER (Page 4-20)
RF5V
CH+12V
B7501
OPEN
TO SYSCON (Page 4-14)
AUDIO(-)
SCR[H]
P50_I/O
I2C_DATA2
I2C_CLK2
PERI1S
WA_DET
R.PAUSE/COMPU_IN
RMO
TO SYSCON SUB (Page 4-16)
RXD
TXD
JLIP[L]
CTL_A
CTL_B
R7504
(FERRITE CORE)
B7502
B7503
OPEN
0Ω
CN7505 OPEN
1 GND
2 GND
R7501 75
R7502 75
R7503 75
TO JACK CN7101 (Page 4-31) CN7504
1 F_C_IN
2 GND
3 F_Y_IN
4 GND
5 F_V_IN
6 GND
7 F.AUDIO[L]
8 F.AUDIO[R]
03 MAIN(TERMINAL)
TO VIDEO/N.AUDIO (Page 4-8)
GND
C_OUT
Y_OUT
BIAS_FOR_C_OUT
D/A.OUT[C]
VIDEO_OSD_OUT
TUNER_VIDEO
LINE/R_V_IN
LINE_C_IN
LINE_Y_IN
F_V_IN
TO FMA (Page 4-11)
GND
DEC_OUT[L]
DEC_OUT[R]
A.IN2[L]
A.IN2[R]
A.IN1[L]
A.IN1[R]
LINE_OUT[L]
LINE_OUT[R]
RCA_IN[L]
RCA_IN[R]
F.AUDIO[L]
F.AUDIO[R]
5
4
3
2
1
A
B
C
D
E
F
G
H

4.11 3D SVHS(VIDEO) SCHEMATIC DIAGRAM

NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.

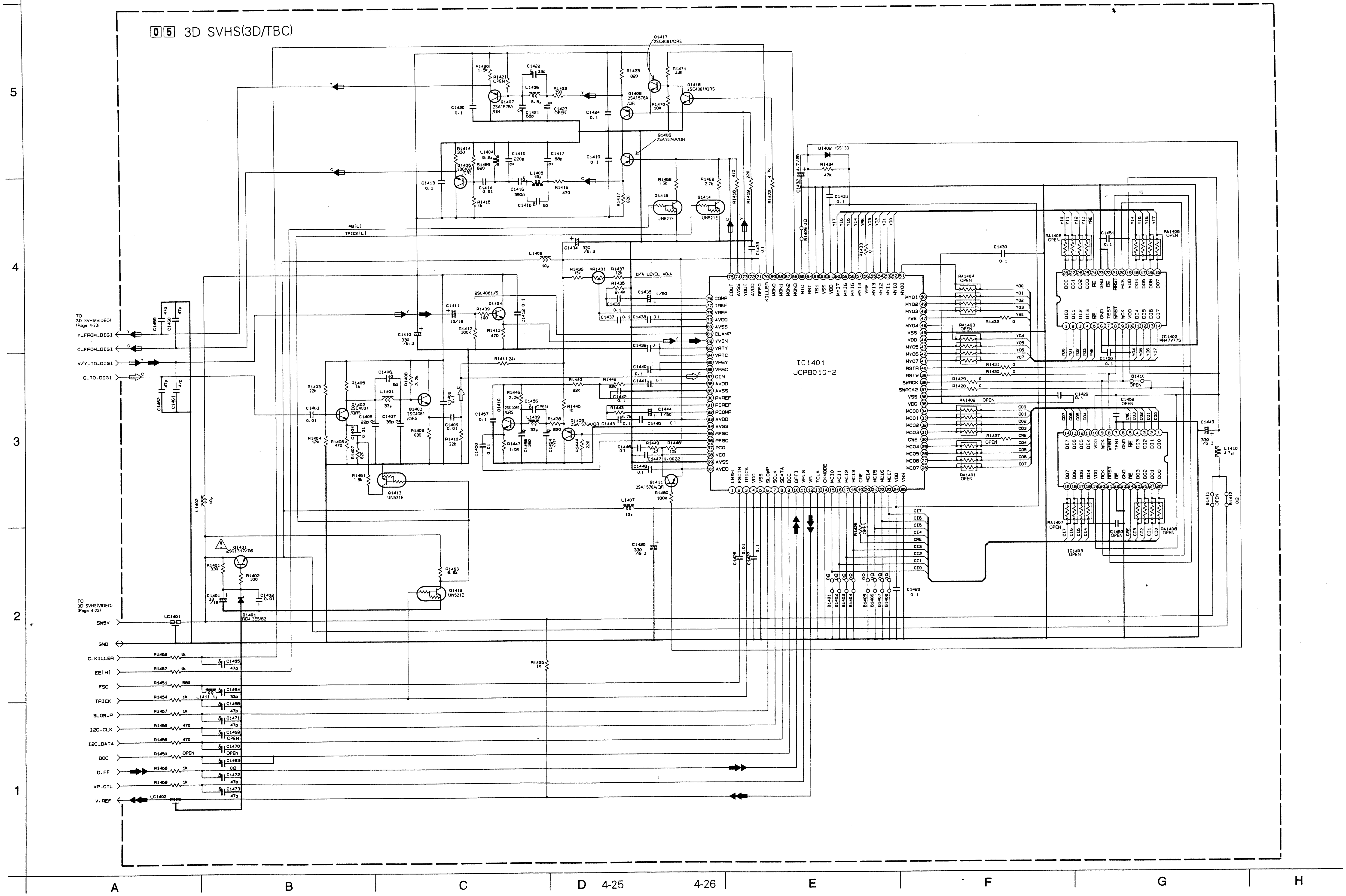


05 3D SVHS(VIDEO)
TO 3D SVHS(3D/TBC) (Page 4-25)
C_FROM_DIGI
Y_FROM_DIGI
V/Y_TO_DIGI
C_TO_DIGI
CN1005
OPEN
1 SW5V
2 SW5V
3 TO_PS_C
4 GND
5 FROM_PS_C
6 GND
7 TO_PS_Y
8 GND
9 FROM_PS_Y
TO DIGITAL(ENC/DEC) CN8601 (Page 4-41)
CN1006
1 Y_FROM_DVHS
2 GND
3 Y_TO_DVHS
4 GND
5 C_TO_DVHS
6 GND
IC1006 HA118092FP1
IC1001 JCP8008
IC1002 VC2076MP
IC1007 BA10358F
IC1008 MH1115XF
IC1009 OPEN
IC1010 OPEN
1394_D_PB(H)
TP1001 FSC PHASE
SECAM(H)
P. BURST LEVEL ADJ
VR1002
TO 3D SVHS(3D/TBC) (Page 4-25)
FSC
C.KILLER
EE(H)
SW5V
GND
V.REF
DOC
TRICK
I2C_CLK
SLOW_P
I2C_DATA
D.FF
VP_CTL
TO MAIN(VIDEO/AUDIO) CN101 (Page 4-8)
CN1001
V.P_CTL
D.FF(V)
I2C_DATA
SLOW_P
I2C_CLK
TRICK(H)
NC
NC
VREF
NC
GND(D)
GND(D)
SW5V
SW5V
NC
CK
C.SYNC
NC
FSC
SECAM(H)
V.PULSE
PB_COLOR
1394-D.PB(H)
LINE_V_IN
NC
LINE_C_IN
NC
NC
NC
LINE_V_IN/R_V1_IN
TO MAIN(VIDEO/AUDIO) CN102 (Page 4-8)
CN1002
NC
NC
BS_IN/F_V_IN
NC
NC
GND
LINE/TU_V_IN
ME_ALC_DET
Y_TO_SUB
P_MUTE(L)
Y_TO_AV1
SW5(L)
GND
GND
Y_FROM_AV1
GND
I2C_CLK
I2C_DATA
SW5V
SW5V
V_TO_OSD
GND
V_FROM_OSD
CHARA_DATA
BIAS_PG/L.C_OUT
REC_C_OUT
REC_C_DET
Y_OUT
GND
C_OUT
WF1
WF16
1
2
3
4
5
A
B
C
D
E
F
G
H

NOTE : For 3D SVHS(VIDEO) waveforms, please refer to pages 4-61, 4-62.

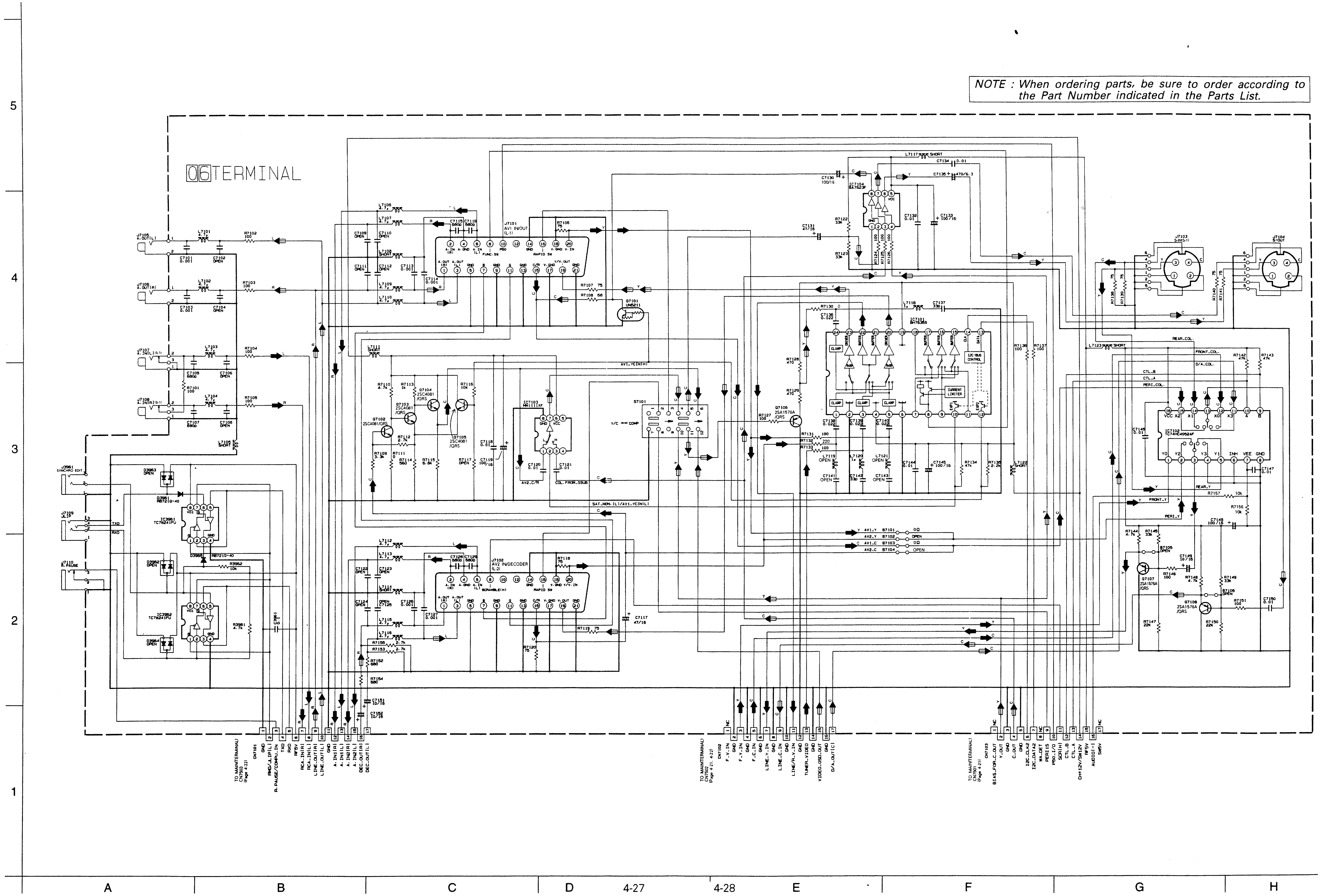
4.12 3D SVHS(3D/TBC) SCHEMATIC DIAGRAM

NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.


05 3D SVHS(3D/TBC)
TO 3D SVHS(VIDEO) (Page 4-23)
Y_FROM_DIGI
C_FROM_DIGI
V/Y_TO_DIGI
C_TO_DIGI
TO 3D SVHS(VIDEO) (Page 4-23)
SW5V
GND
C.KILLER
EE(H)
FSC
TRICK
SLOW_P
I2C_CLK
I2C_DATA
DOC
D.FF
VP_CTL
V.REF
PB(L)
TRICK(L)
D/A LEVEL ADJ.
IC1401
JCP8010-2
IC1402
IC1403
OPEN
5
4
3
2
1
A
B
C
D
E
F
G
H

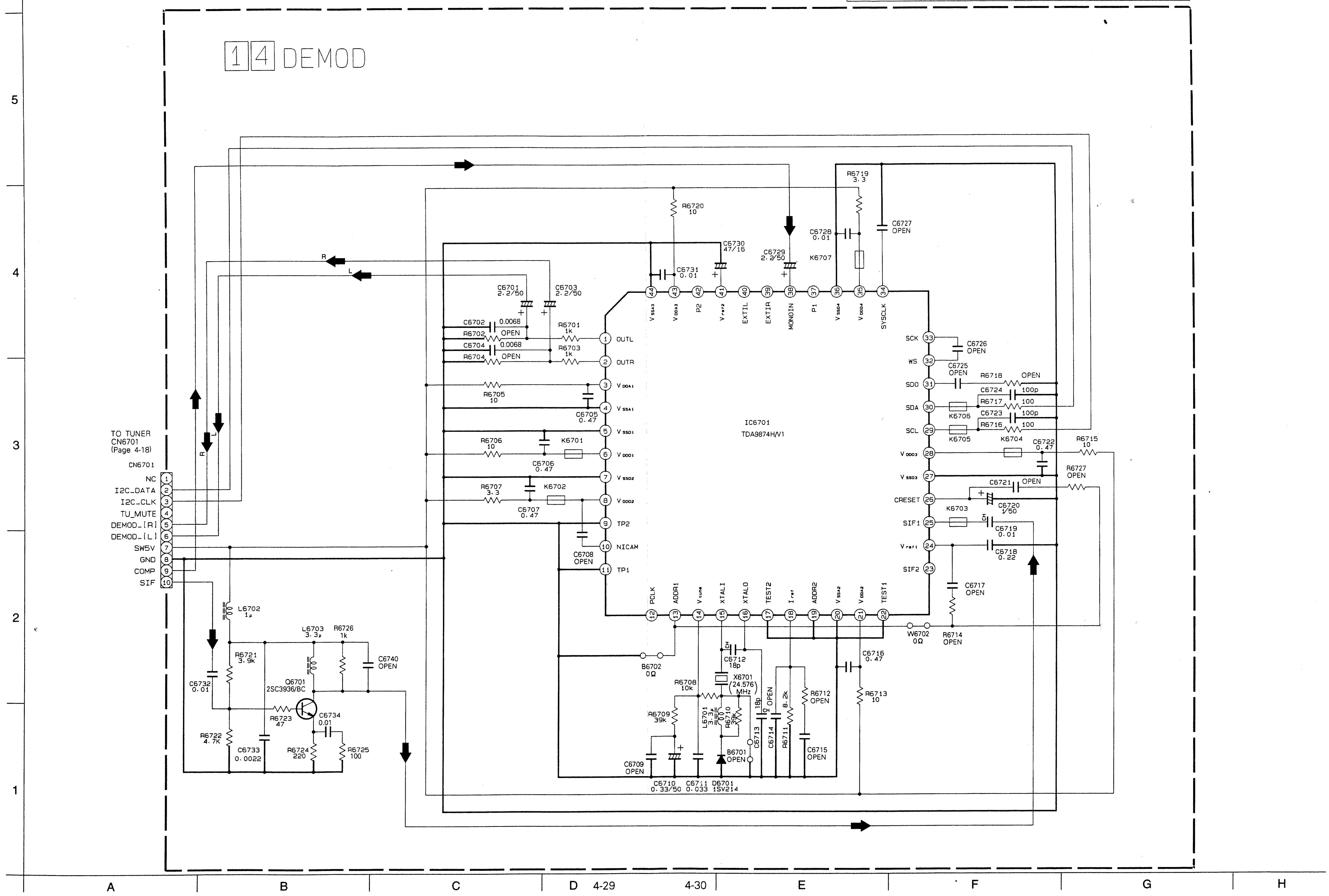
4.13 TERMINAL SCHEMATIC DIAGRAM

NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.


06 TERMINAL
J7105 A.OUT(L)
J7106 A.OUT(R)
J7107 A.IN(L)(S-1)
J7108 A.IN(R)(S-1)
J3961 SYNCHRO EDIT
J7109 JLIP
J7110 R.PAUSE
IC3961 TC7W241FU
IC3962 TC7W241FU
D3961 RB721Q-40
D3962 OPEN
D3963 OPEN
D3964 OPEN
D3965 RB721Q-40
R3962 10k
R3961 4.7k
J7101 AV1 IN/OUT (L-1)
J7102 AV2 IN/DECODER (L-2)
FUNC. SW
RAPID SW
SCRAMBLE(H)
Q7101 UN5211
Q7102 2SC4081/QRS
Q7103 2SC4081/QRS
Q7104 2SC4081/QRS
Q7105 2SC4081/QRS
IC7103 NJM2233BM
S7101
Y/C ⇔ COMP
AV1_Y.C(N)(H)
AV2_C/R
COL. FROM_SSUB
SAT_MON. (L)/AV1_Y.C(N)(L)
IC7104 BA7623F
IC7101 BH7636S
CLAMP
BUFFER
I2C-BUS CONTROL
CURRENT LIMITER
Q7106 2SA1576A/QRS
Q7107 2SA1576A/QRS
Q7108 2SA1576A/QRS
IC7102 TC74HC4052AF
J7103 S-IN(S-1)
J7104 S-OUT
REAR_COL.
FRONT_COL.
D/A_COL.
CTL_B
CTL_A
PERI_COL.
REAR_Y
FRONT_Y
PERI_Y
AV1_Y B7101 0Ω
AV2_Y B7102 OPEN
AV1_C B7103 0Ω
AV2_C B7104 OPEN
TO MAIN(TERMINAL) CN7503 (Page 4-22)
CN7101
1 GND
2 RMO/JLIP(L)
3 R.PAUSE/COMPU_IN
4 TXD
5 RXD
6 RF5V
7 RCA_IN(R)
8 RCA_IN(L)
9 LINE_OUT(R)
10 LINE_OUT(L)
11 GND
12 A.IN1(R)
13 A.IN1(L)
14 A.IN2(R)
15 A.IN2(L)
16 DEC_OUT(R)
17 DEC_OUT(L)
TO MAIN(TERMINAL) CN7502 (Page 4-21, 4-22)
CN7102
1 NC
2 F_V_IN
3 GND
4 F_Y_IN
5 GND
6 F_C_IN
7 GND
8 LINE_Y_IN
9 GND
10 LINE_C_IN
11 GND
12 LINE/R_V_IN
13 GND
14 TUNER_VIDEO
15 GND
16 VIDEO_OSD_OUT
17 GND
D/A_OUT(C)
TO MAIN(TERMINAL) CN7501 (Page 4-21)
CN7103
1 NC
2 BIAS_FOR_C_OUT
3 Y_OUT
4 GND
5 C_OUT
6 GND
7 I2C_CLK2
8 NC
8 I2C_DATA2
9 WA_DET
10 PERI1S
11 P50_I/O
12 SCR(H)
13 CTL_B
14 CTL_A
15 CH+12V/SW12V
16 RF5V
17 NC
AUDIO(-)
SW5V
5
4
3
2
1
A
B
C
D
E
F
G
H

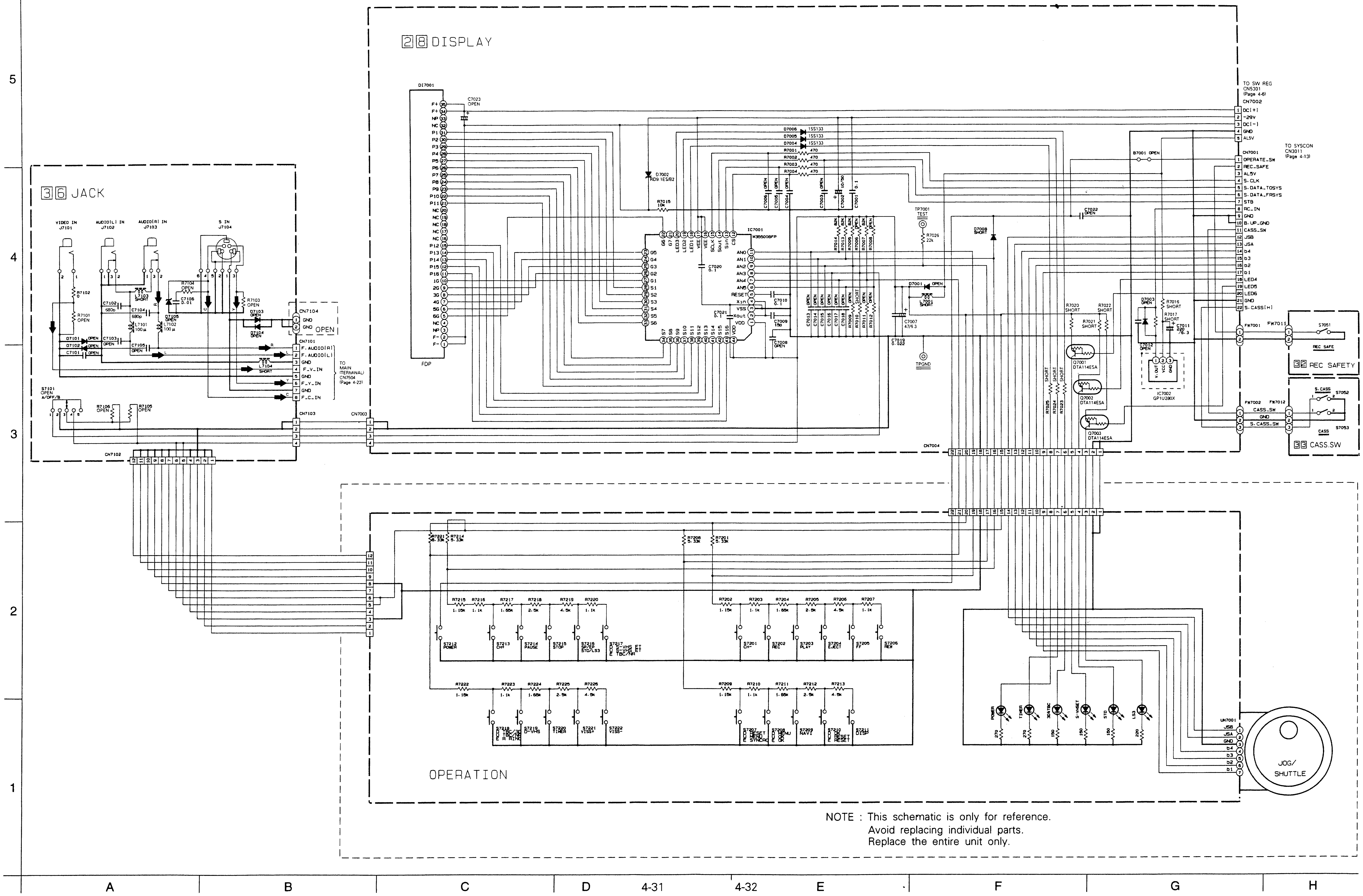
4.14 DEMODULATOR SCHEMATIC DIAGRAM

NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.


14 DEMOD
TO TUNER
CN6701
(Page 4-18)
CN6701
NC 1
I2C_DATA 2
I2C_CLK 3
TU_MUTE 4
DEMOD_[R] 5
DEMOD_[L] 6
SW5V 7
GND 8
COMP 9
SIF 10
R
L
IC6701
TDA9874H/V1
1 OUTL
2 OUTR
3 VDDA1
4 VSSA1
5 VSSD1
6 VDDD1
7 VSSD2
8 VDDD2
9 TP2
10 NICAM
11 TP1
12 PCLK
13 ADDR1
14 Vtune
15 XTALI
16 XTALO
17 TEST2
18 Iref
19 ADDR2
20 VSSA2
21 VDDA2
22 TEST1
23 SIF2
24 Vref1
25 SIF1
26 CRESET
27 VSSD3
28 VDDD3
29 SCL
30 SDA
31 SDO
32 WS
33 SCK
34 SYSCLK
35 VDDD4
36 VSSD4
37 P1
38 MONOIN
39 EXTIR
40 EXTIL
41 Vref2
42 P2
43 VDDA3
44 VSSA3
R6719 3.3
C6728 0.01
K6707
C6727 OPEN
R6720 10
C6730 47/16
C6729 2.2/50
C6731 0.01
C6701 2.2/50
C6703 2.2/50
C6702 0.0068
R6702 OPEN
C6704 0.0068
R6704 OPEN
R6701 1k
R6703 1k
R6705 10
C6705 0.47
R6706 10
K6701
C6706 0.47
R6707 3.3
K6702
C6707 0.47
C6708 OPEN
C6726 OPEN
C6725 OPEN
R6718 OPEN
C6724 100p
R6717 100
K6706
C6723 100p
R6716 100
K6705
K6704
C6722 0.47
R6715 10
R6727 OPEN
C6721 OPEN
C6720 1/50
K6703
CH
C6719 0.01
C6718 0.22
C6717 OPEN
W6702 0Ω
R6714 OPEN
C6716 0.47
R6713 10
R6712 OPEN
C6715 OPEN
R6711 8.2k
C6714 OPEN
C6713 18p
CH
B6701 OPEN
X6701 (24.576 MHz)
CH
C6712 18p
R6710 33k
L6701 3.3μ
R6708 10k
R6709 39k
C6709 OPEN
C6710 0.33/50
C6711 0.033
D6701 1SV214
B6702 0Ω
L6702 1μ
L6703 3.3μ
R6726 1k
C6740 OPEN
R6721 3.9k
Q6701 2SC3936/BC
R6723 47
C6734 0.01
C6732 0.01
R6722 4.7K
C6733 0.0022
R6724 220
R6725 100
1
2
3
4
5
A
B
C
D
E
F
G
H

4.15 DISPLAY, OPERATION, REC SAFETY, CASS.SW AND JACK SCHEMATIC DIAGRAMS

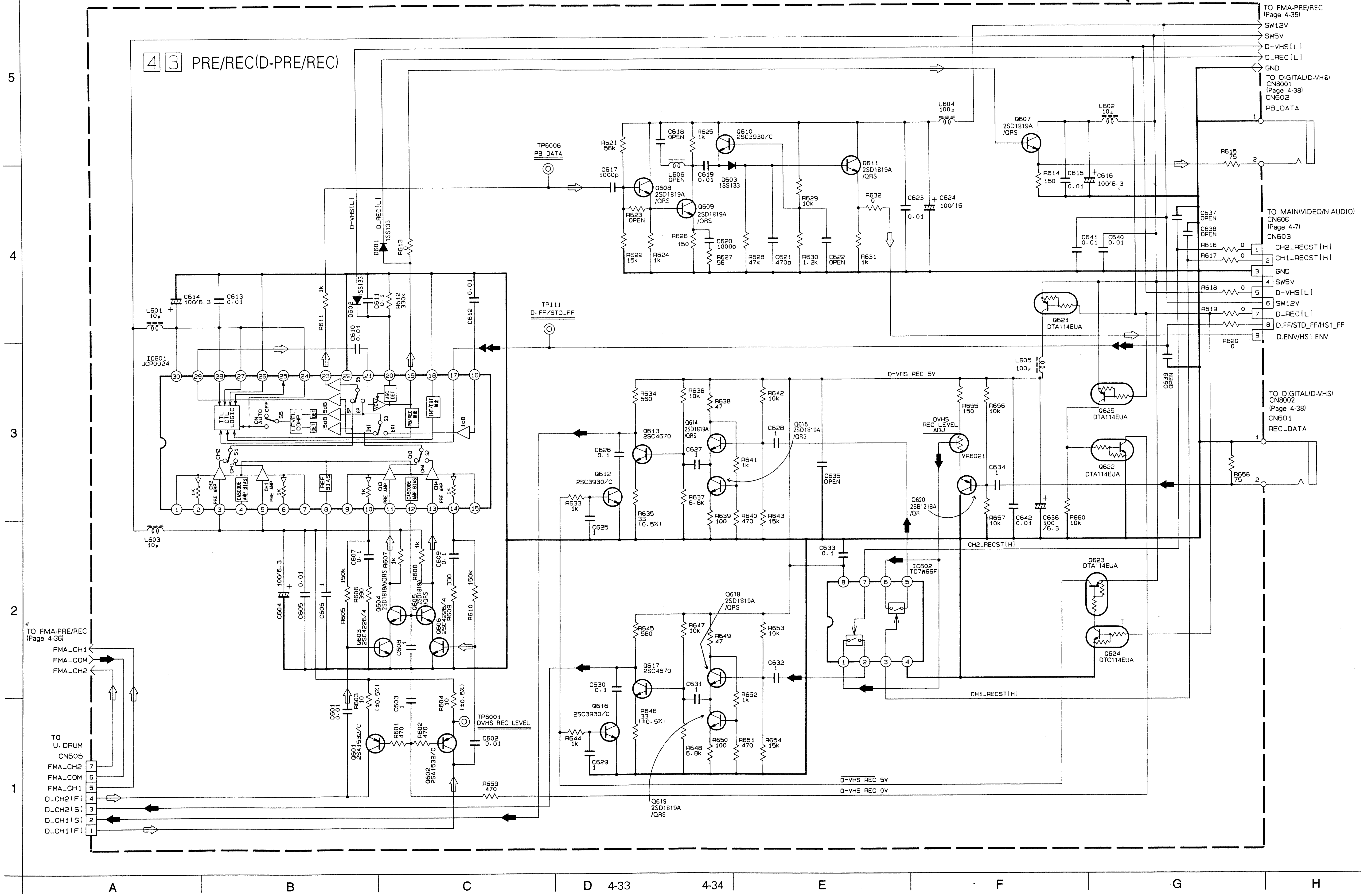
NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.


28 DISPLAY
36 JACK
32 REC SAFETY
35 CASS.SW
OPERATION
DI7001
FDP
IC7001
M35006BFP
IC7002
GP1U280X
Q7001 DTA114ESA
Q7002 DTA114ESA
Q7003 DTA114ESA
TO SW REG CN5301 (Page 4-6)
CN7002
DC(+)
-29V
DC(-)
GND
AL5V
TO SYSCON CN3011 (Page 4-13)
CN7001
OPERATE_SW
REC_SAFE
AL5V
S.CLK
S.DATA_TOSYS
S.DATA_FRSYS
STB
RC_IN
GND
B.UP_GND
CASS_SW
JSB
JSA
b4
b3
b2
b1
LED4
LED5
LED6
GND
S.CASS(H)
CN7004
FW7001
FW7011
S7051
REC SAFE
FW7002
FW7012
CASS_SW
GND
S.CASS_SW
S.CASS
S7052
S7053
CASS
VIDEO IN J7101
AUDIO(L) IN J7102
AUDIO(R) IN J7103
S IN J7104
CN7104
GND
GND
OPEN
CN7101
F.AUDIO(R)
F.AUDIO(L)
GND
F_Y_IN
GND
F_Y_IN
GND
F_C_IN
TO MAIN (TERMINAL) CN7504 (Page 4-22)
S7101 OPEN A/OFF/B
CN7103
CN7003
CN7102
S7212 POWER
S7213 CH+
S7214 PAUSE
S7215 STOP
S7216 SP/EP STD/LS3
S7217 S-VHS ET TBC/NR
S7201 CH-
S7202 REC
S7203 PLAY
S7204 EJECT
S7205 FF
S7206 REW
S7219 D-VHS
S7220 TIMER
S7221 VISS+
S7222 VISS-
S7207 RESET SYNCRO
S7208 MENU OK
S7209 NAVI
S7210 RESET
S7211 DISP
POWER
TIMER
30ATBC
S-VHSET
STD
LS3
CN7001
JSB
JSA
GND
b4
b3
b2
b1
JOG/ SHUTTLE
TP7001 TEST
TPGND
A
B
C
D
E
F
G
H
1
2
3
4
5

NOTE : This schematic is only for reference.
Avoid replacing individual parts.
Replace the entire unit only.

4.16 D-PRE/REC SCHEMATIC DIAGRAM

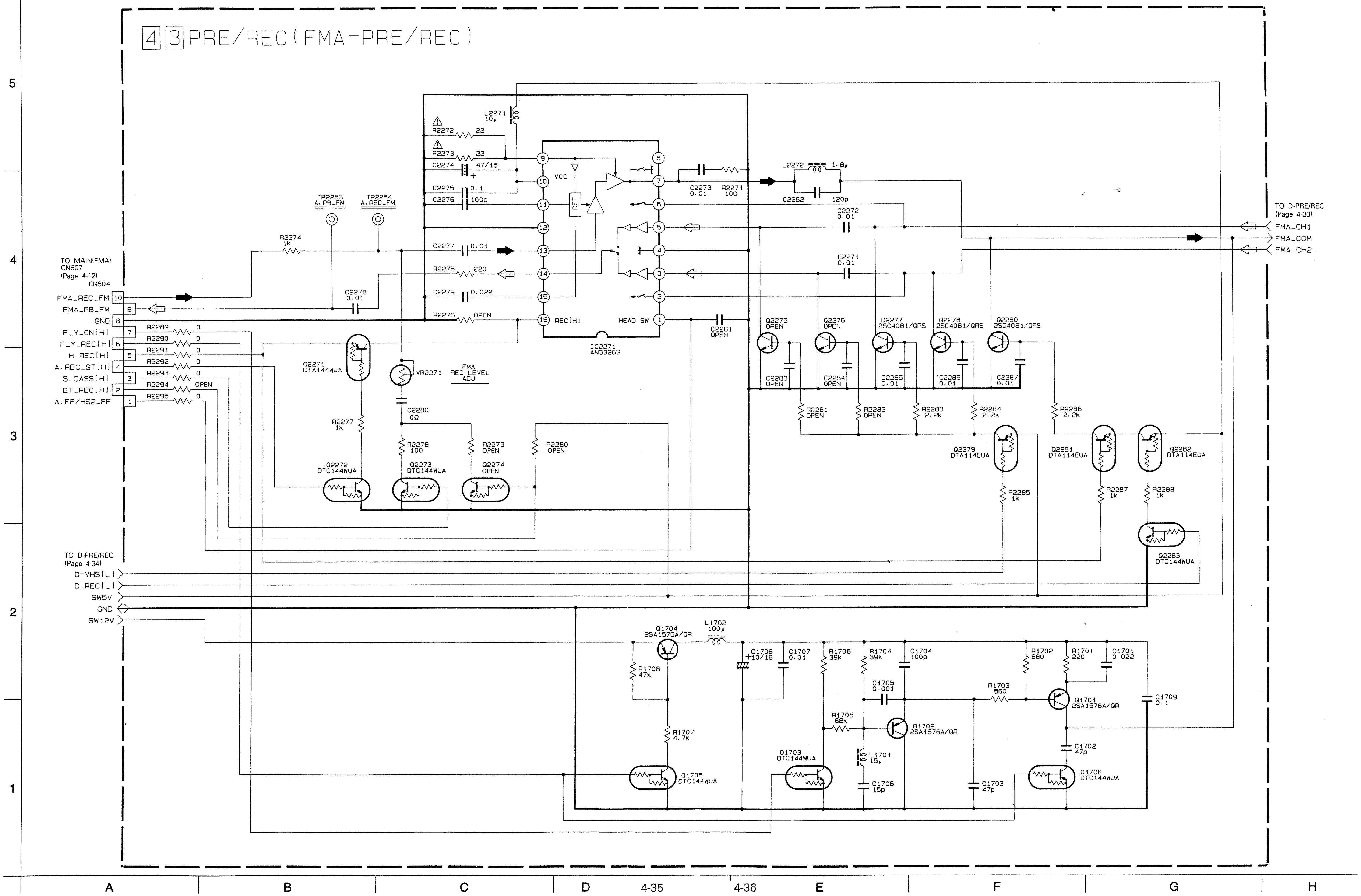
NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.



43 PRE/REC(D-PRE/REC)
TO FMA-PRE/REC (Page 4-35)
SW12V
SW5V
D-VHS[L]
D_REC[L]
GND
TO DIGITAL(D-VHS) CN8001 (Page 4-38) CN602
PB_DATA
TO MAIN(VIDEO/N.AUDIO) CN606 (Page 4-7) CN603
CH2_RECST[H]
CH1_RECST[H]
GND
SW5V
D-VHS[L]
SW12V
D_REC[L]
D.FF/STD_FF/HS1_FF
D.ENV/HS1.ENV
TO DIGITAL(D-VHS) CN8002 (Page 4-38) CN601
REC_DATA
TO FMA-PRE/REC (Page 4-36)
FMA_CH1
FMA_COM
FMA_CH2
TO U. DRUM CN605
FMA_CH2
FMA_COM
FMA_CH1
D_CH2(F)
D_CH2(S)
D_CH1(S)
D_CH1(F)
TP6006 PB DATA
TP111 D.FF/STD_FF
TP6001 DVHS REC LEVEL
IC601 JCP0024
IC602 TC7W66F
Q601 2SA1532/C
Q602 2SA1532/C
Q603 2SC4226/4
Q604 2SD1819A/QRS
Q605 2SD1819A/QRS
Q606 2SC4226/4
Q607 2SD1819A /QRS
Q608 2SD1819A /QRS
Q609 2SD1819A /QRS
Q610 2SC3930/C
Q611 2SD1819A /QRS
Q612 2SC3930/C
Q613 2SC4670
Q614 2SD1819A /QRS
Q615 2SD1819A /QRS
Q616 2SC3930/C
Q617 2SC4670
Q618 2SD1819A /QRS
Q619 2SD1819A /QRS
Q620 2SB1218A /QR
Q621 DTA114EUA
Q622 DTA114EUA
Q623 DTA114EUA
Q624 DTC114EUA
Q625 DTA114EUA
D601 1SS133
D602 1SS133
D603 1SS133
VR6021
DVHS REC LEVEL ADJ
L601 10µ
L602 10µ
L603 10µ
L604 100µ
L605 100µ
L606 OPEN
D-VHS REC 5V
D-VHS REC 5V
D-VHS REC 0V
ITL CTL LOGIC
LEVEL COMP
AGC DET
REF BIAS
CH1 PRE AMP
CH2 PRE AMP
CH3 PRE AMP
CH4 PRE AMP
CASCODE AMP BIAS
PB/REC
INT/EXT
ON AUTO OFF
R603 10 (±0.5%)
R604 10 (±0.5%)
R635 33 (±0.5%)
R646 33 (±0.5%)
R659 470
C614 100/6.3
C613 0.01
C604 100/6.3
C624 100/16
C616 100/6.3
C636 100/6.3
C637 OPEN
C638 OPEN
C639 OPEN
C635 OPEN
R620 0
R615 75
R658 75
5
4
3
2
1
A
B
C
D
E
F
G
H

4.17 FMA-PRE/REC SCHEMATIC DIAGRAM

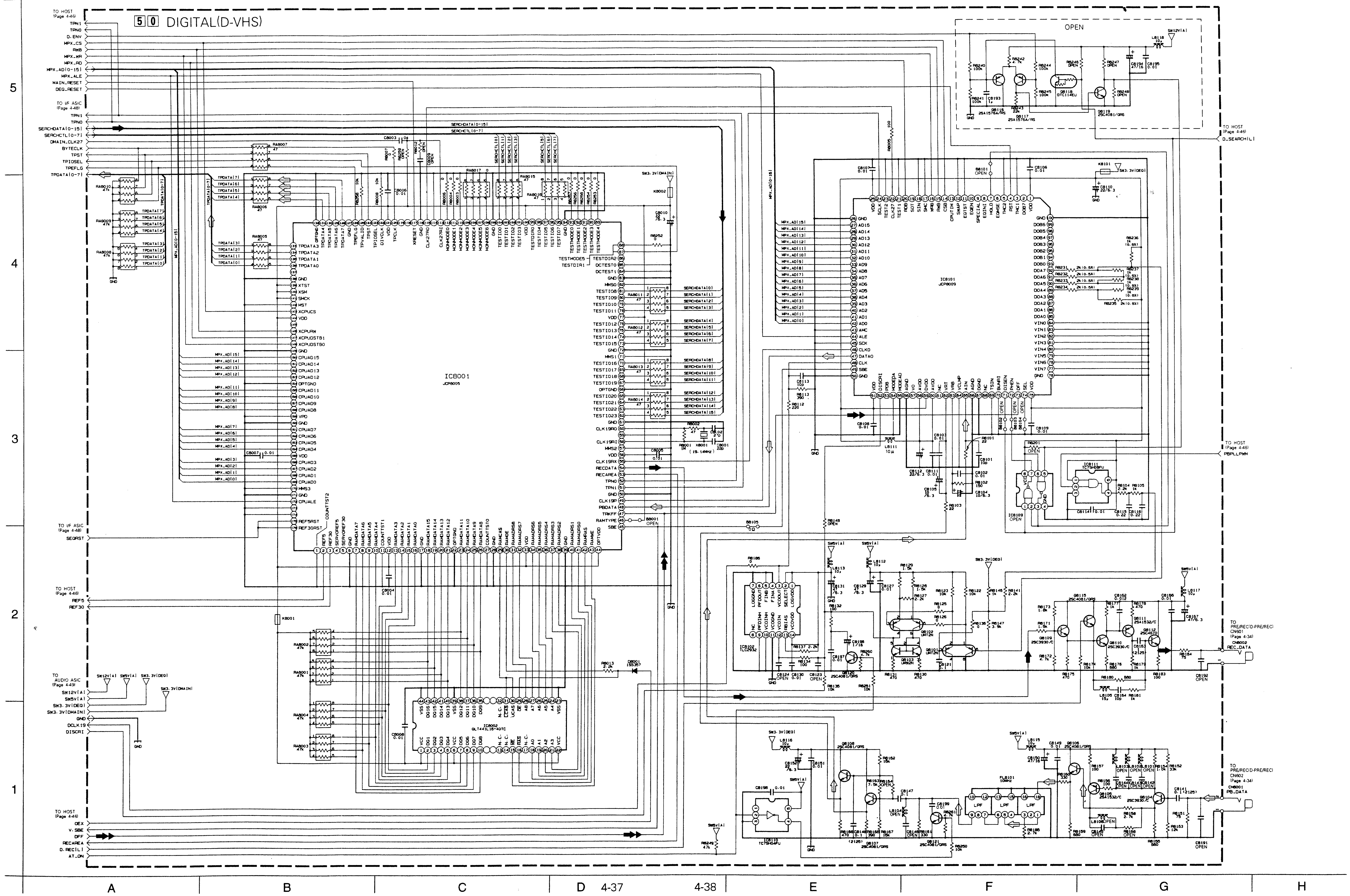
NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.



4 3 PRE/REC(FMA-PRE/REC)
5
4
3
2
1
A
B
C
D
E
F
G
H
TO MAIN(FMA)
CN607
(Page 4-12)
CN604
FMA_REC_FM 10
FMA_PB_FM 9
GND 8
FLY_ON[H] 7
FLY_REC[H] 6
H. REC[H] 5
A. REC_ST[H] 4
S. CASS[H] 3
ET_REC[H] 2
A. FF/HS2_FF 1
R2289 0
R2290 0
R2291 0
R2292 0
R2293 0
R2294 OPEN
R2295 0
R2274 1k
TP2253 A. PB_FM
TP2254 A. REC_FM
C2278 0.01
L2271 10μ
R2272 22
R2273 22
C2274 47/16
C2275 0.1
C2276 100p
C2277 0.01
R2275 220
C2279 0.022
R2276 OPEN
VCC
DET
REC[H]
HEAD SW
IC2271
AN3328S
C2273 0.01
R2271 100
L2272 1.8μ
C2282 120p
C2272 0.01
C2271 0.01
C2281 OPEN
Q2271 DTA144WUA
VR2271
FMA REC LEVEL ADJ
C2280 0Ω
R2277 1k
R2278 100
R2279 OPEN
R2280 OPEN
Q2272 DTC144WUA
Q2273 DTC144WUA
Q2274 OPEN
Q2275 OPEN
Q2276 OPEN
Q2277 2SC4081/QRS
Q2278 2SC4081/QRS
Q2280 2SC4081/QRS
C2283 OPEN
C2284 OPEN
C2285 0.01
C2286 0.01
C2287 0.01
R2281 OPEN
R2282 OPEN
R2283 2.2k
R2284 2.2k
R2286 2.2k
Q2279 DTA114EUA
Q2281 DTA114EUA
Q2282 DTA114EUA
R2285 1k
R2287 1k
R2288 1k
Q2283 DTC144WUA
TO D-PRE/REC
(Page 4-33)
FMA_CH1
FMA_COM
FMA_CH2
TO D-PRE/REC
(Page 4-34)
D-VHS[L]
D_REC[L]
SW5V
GND
SW12V
Q1704 2SA1576A/QR
L1702 100μ
R1708 47k
R1707 4.7k
Q1705 DTC144WUA
C1708 10/16
C1707 0.01
R1706 39k
R1704 39k
C1704 100p
C1705 0.001
R1705 68k
Q1702 2SA1576A/QR
Q1703 DTC144WUA
L1701 15μ
C1706 15p
C1703 47p
R1703 560
R1702 680
R1701 220
C1701 0.022
Q1701 2SA1576A/QR
C1709 0.1
C1702 47p
Q1706 DTC144WUA

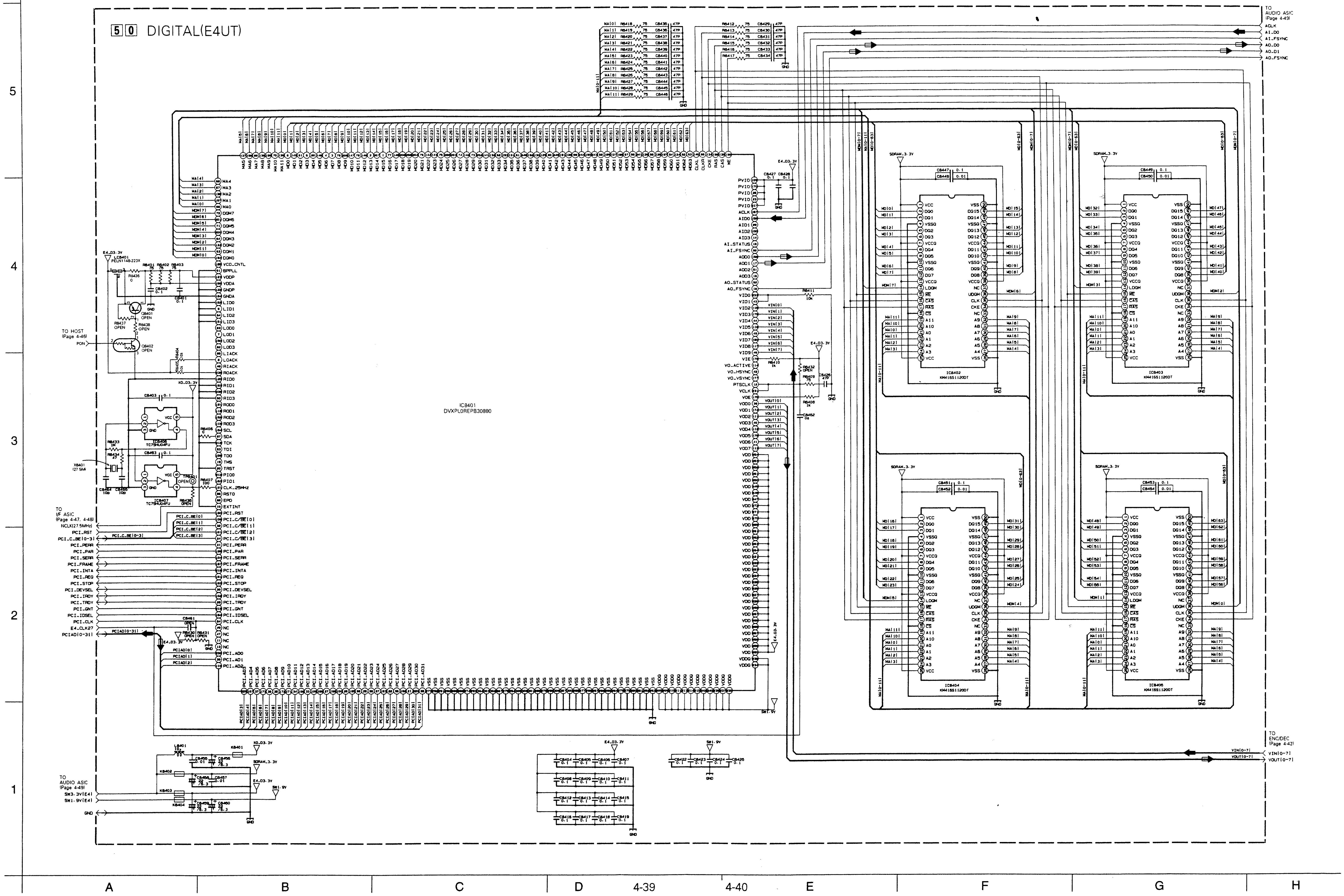
4.18 D-VHS SCHEMATIC DIAGRAM

NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.


50 DIGITAL(D-VHS)
OPEN
TO HOST (Page 4-46)
TPN1
TPN0
D.ENV
MPX.CS
RWB
MPX.WR
MPX.RD
MPX.AD(0-15)
MPX.ALE
MAIN.RESET
DEG.RESET
TO I/F ASIC (Page 4-48)
SERCHDATA(0-15)
SERCHCTL(0-7)
DMAIN.CLK27
BYTECLK
TPST
TPIOSEL
TPEFLG
TPDATA(0-7)
IC8001
JCP8005
IC8101
JCP8009
IC8002
GLT441L16-40TC
IC8102
IC8109
IC8110
TC7SH04FU
IC8111
TC7SH08FU
X8001
(19.14MHz)
FL8101
D_SEARCH(L)
PBPLLPWM
TO I/F ASIC (Page 4-48)
SEQRST
REF5
REF30
TO AUDIO ASIC (Page 4-49)
SW12V(A)
SW5V(A)
SW3.3V(DEG)
SW3.3V(DMAIN)
GND
DCLK19
DISCRI
OEX
V.SBE
DFF
RECAREA
D.RECL(L)
AT_ON
TO PRE/REC(D-PRE/REC) CN601 (Page 4-34)
CN8002
REC_DATA
TO PRE/REC(D-PRE/REC) CN602 (Page 4-34)
CN8001
PB_DATA
1
2
3
4
5
A
B
C
D
E
F
G
H

4.19 E4UT SCHEMATIC DIAGRAM

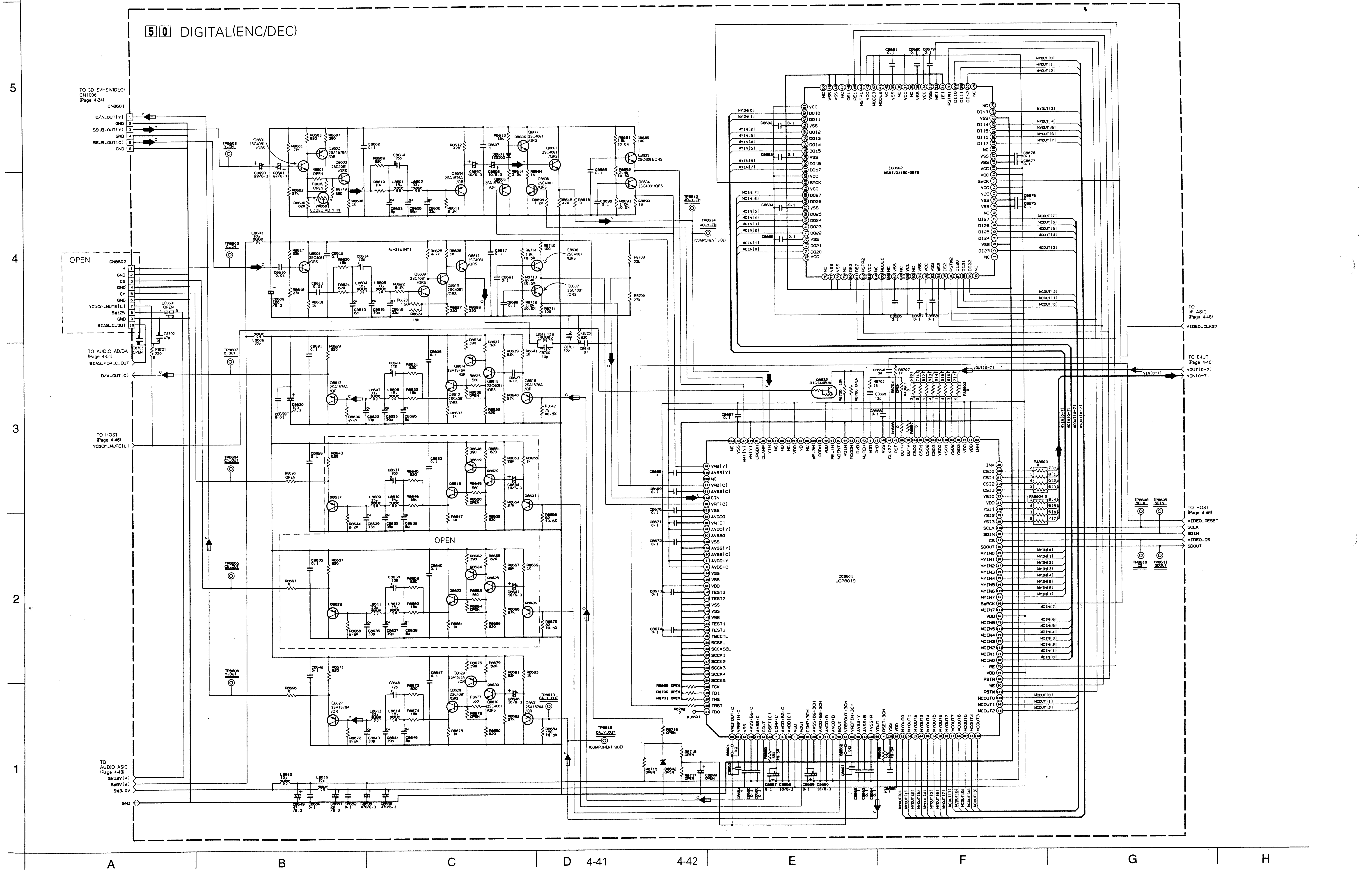
NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.



50 DIGITAL(E4UT)
IC8401
DVXPL0REPB30880
IC8402
KM416S1120DT
IC8403
KM416S1120DT
IC8404
KM416S1120DT
IC8405
KM416S1120DT
IC8406
TC7SHU04FU
IC8407
TC7SHU04FU
Q8401
OPEN
Q8402
OPEN
LC8401
PELN1148-223X
X8401
27.5M
L8401
K8401
K8402
K8403
K8404
TO AUDIO ASIC (Page 4-49)
ACLK
AI_D0
AI_FSYNC
AO_D0
AO_D1
AO_FSYNC
TO HOST (Page 4-46)
PON
TO I/F ASIC (Page 4-47, 4-48)
NCLK(27.5MHz)
PCI_RST
PCI_C_BE(0-3)
PCI_PERR
PCI_PAR
PCI_SERR
PCI_FRAME
PCI_INTA
PCI_REQ
PCI_STOP
PCI_DEVSEL
PCI_IRDY
PCI_TRDY
PCI_GNT
PCI_IDSEL
PCI_CLK
E4_CLK27
PCIAD(0-31)
TO ENC/DEC (Page 4-42)
VIN(0-7)
VOUT(0-7)
TO AUDIO ASIC (Page 4-49)
SW3.3V(E4)
SW1.9V(E4)
GND
E4_D3.3V
X0_D3.3V
SDRAM_3.3V
SW1.9V
MA(0-11)
MD(0-63)
MDM(0-7)
VCO_CNTL
CLK_25MHz
1
2
3
4
5
A
B
C
D
E
F
G
H

4.20 ENC/DEC SCHEMATIC DIAGRAM

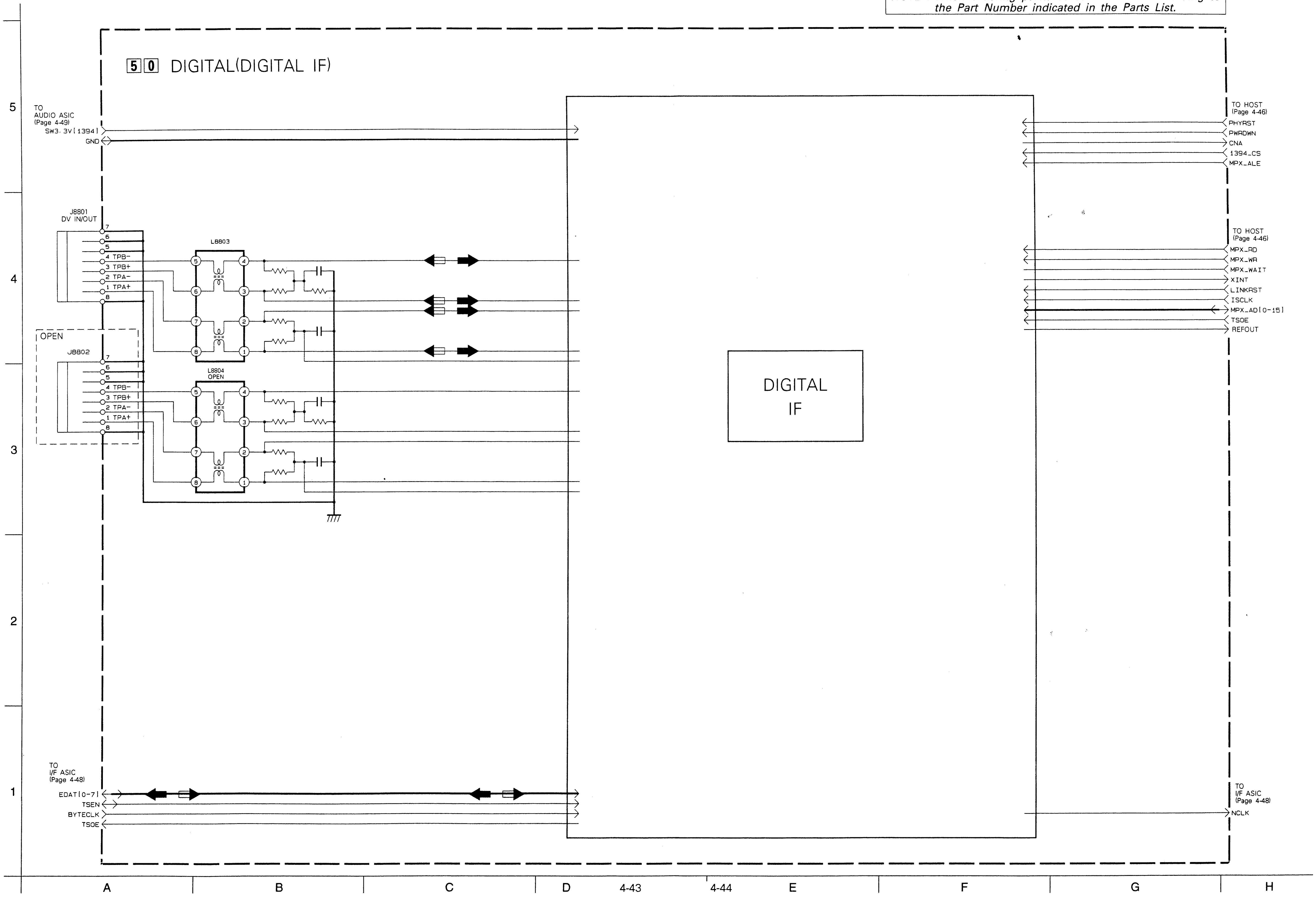
NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.



50 DIGITAL(ENC/DEC)
TO 3D SVHS(VIDEO) CN1006 (Page 4-24)
CN8601
CN8602
OPEN
TO AUDIO AD/DA (Page 4-51)
TO HOST (Page 4-46)
TO AUDIO ASIC (Page 4-49)
IC8601 JCP8019
IC8602
TO I/F ASIC (Page 4-49)
VIDEO_CLK27
TO E4UT (Page 4-40)
TO HOST (Page 4-46)
VIDEO_RESET
SCLK
SDIN
VIDEO_CS
SDOUT
(COMPONENT SIDE)
1
2
3
4
5
A
B
C
D
E
F
G
H

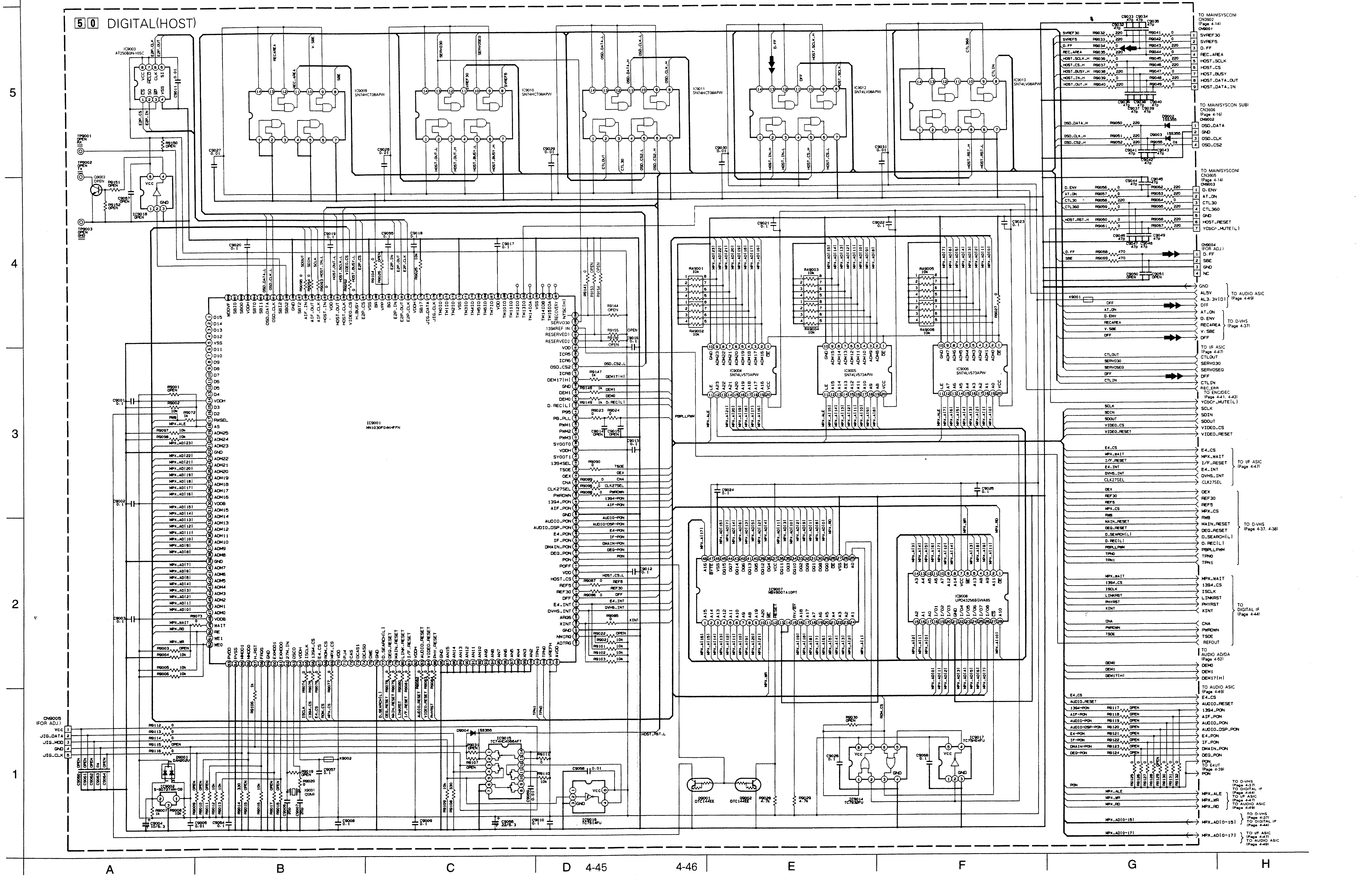
4.21 DIGITAL IF SCHEMATIC DIAGRAM

NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.


50 DIGITAL(DIGITAL IF)
TO
AUDIO ASIC
(Page 4-49)
SW3. 3V[1394]
GND
J8801
DV IN/OUT
7
6
5
4 TPB−
3 TPB+
2 TPA−
1 TPA+
8
OPEN
J8802
7
6
5
4 TPB−
3 TPB+
2 TPA−
1 TPA+
8
L8803
L8804
OPEN
DIGITAL
IF
TO HOST
(Page 4-46)
PHYRST
PWRDWN
CNA
1394_CS
MPX_ALE
TO HOST
(Page 4-46)
MPX_RD
MPX_WR
MPX_WAIT
XINT
LINKRST
ISCLK
MPX_AD[0-15]
TSOE
REFOUT
TO
I/F ASIC
(Page 4-48)
EDAT[0-7]
TSEN
BYTECLK
TSOE
TO
I/F ASIC
(Page 4-48)
NCLK
5
4
3
2
1
A
B
C
D
E
F
G
H

4.22 HOST SCHEMATIC DIAGRAM

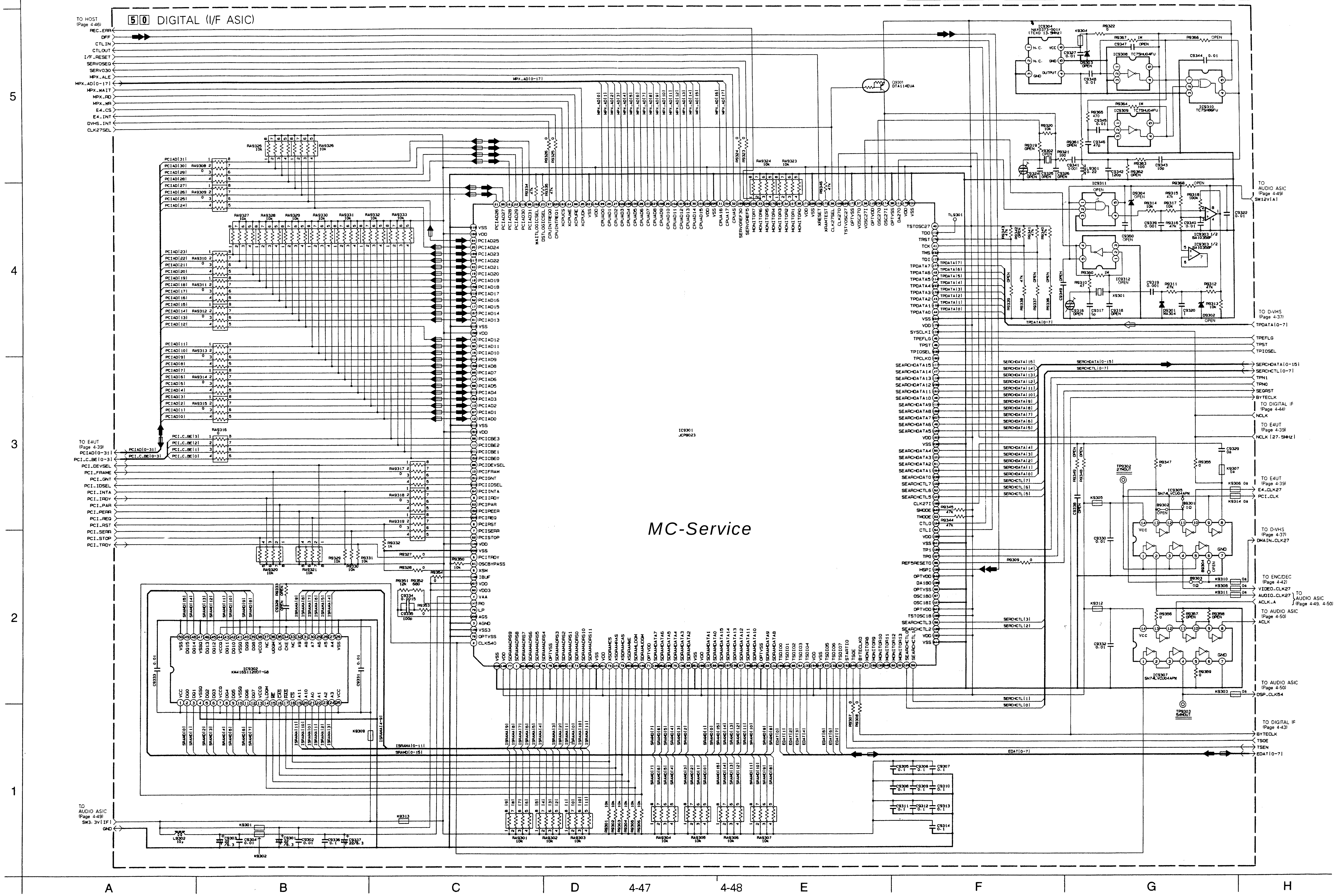
NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.



50 DIGITAL(HOST)
IC9003 AT25080N-10SC
IC9009 SN74HCT08APW
IC9010 SN74HCT08APW
IC9011 SN74HCT08APW
IC9012 SN74LV08APW
IC9013 SN74LV08APW
IC9001 MN1030F04KHFFN
IC9004 SN74LV573APW
IC9005 SN74LV573APW
IC9006 SN74LV573APW
IC9007 MBV800TA10PT
IC9008 UPD4325686WA85
IC9015 TC74HC4066AFT
IC9016 TC7S14FU
IC9017 TC7SH04FU
IC9014 TC7S32FU
IC9002 S-80727AN-D9
Q9001 DTC144EE
Q9002 DTC144EE
Q9003
X9001 20MHz
TP9001
TP9002
TP9003 GND
CN9005 (FOR ADJ.)
VCC
JIG_DATA
JIG_MOD
GND
JIG_CLK
TO MAIN(SYSCON) CN3602 (Page 4-14) CN9001
SVREF30
SVREF5
D.FF
REC_AREA
HOST_SCLK
HOST_CS
HOST_BUSY
HOST_DATA_OUT
HOST_DATA_IN
TO MAIN(SYSCON SUB) CN3606 (Page 4-16) CN9002
OSD_DATA
GND
OSD_CLK
OSD_CS2
TO MAIN(SYSCON) CN3605 (Page 4-14) CN9003
D.ENV
AT_ON
CTL30
CTL360
GND
HOST_RESET
YCbCr_MUTE(L)
CN9004 (FOR ADJ.)
D.FF
SBE
GND
NC
TO AUDIO ASIC (Page 4-49)
AL5V
AL3.3V(D)
DFF
TO D-VHS (Page 4-37)
AT_ON
D.ENV
RECAREA
V.SBE
DFF
TO I/F ASIC (Page 4-47)
CTLOUT
SERVO30
SERVOSEQ
DFF
CTLIN
REC_ERR
TO ENC/DEC (Page 4-41, 4-42)
YCbCr_MUTE(L)
SCLK
SDIN
SDOUT
VIDEO_CS
VIDEO_RESET
E4_CS
MPX_WAIT
I/F_RESET
E4_INT
DVHS_INT
CLK27SEL
TO I/F ASIC (Page 4-47)
OEX
REF30
REF5
MPX_CS
RWB
MAIN_RESET
DEQ_RESET
D_SEARCH(L)
D.REC(L)
PBPLLPWM
TPN0
TPN1
TO D-VHS (Page 4-37, 4-38)
MPX_WAIT
1394_CS
ISCLK
LINKRST
PHYRST
XINT
TO DIGITAL IF (Page 4-44)
CNA
PWRDWN
TSOE
REFOUT
TO AUDIO AD/DA (Page 4-52)
DEM0
DEM1
DEM17(H)
TO AUDIO ASIC (Page 4-49)
E4_CS
AUDIO_RESET
1394_PON
AIF_PON
AUDIO_PON
AUDIO_DSP_PON
E4_PON
IF_PON
DMAIN_PON
DEQ_PON
PON
TO E4UT (Page 4-39)
PON
TO D-VHS (Page 4-37)
TO DIGITAL IF (Page 4-44)
TO I/F ASIC (Page 4-47)
TO AUDIO ASIC (Page 4-49)
MPX_ALE
MPX_WR
MPX_RD
MPX_AD(0-15)
TO D-VHS (Page 4-37)
TO DIGITAL IF (Page 4-44)
MPX_AD(0-17)
TO I/F ASIC (Page 4-47)
TO AUDIO ASIC (Page 4-49)
5
4
3
2
1
A
B
C
D
E
F
G
H

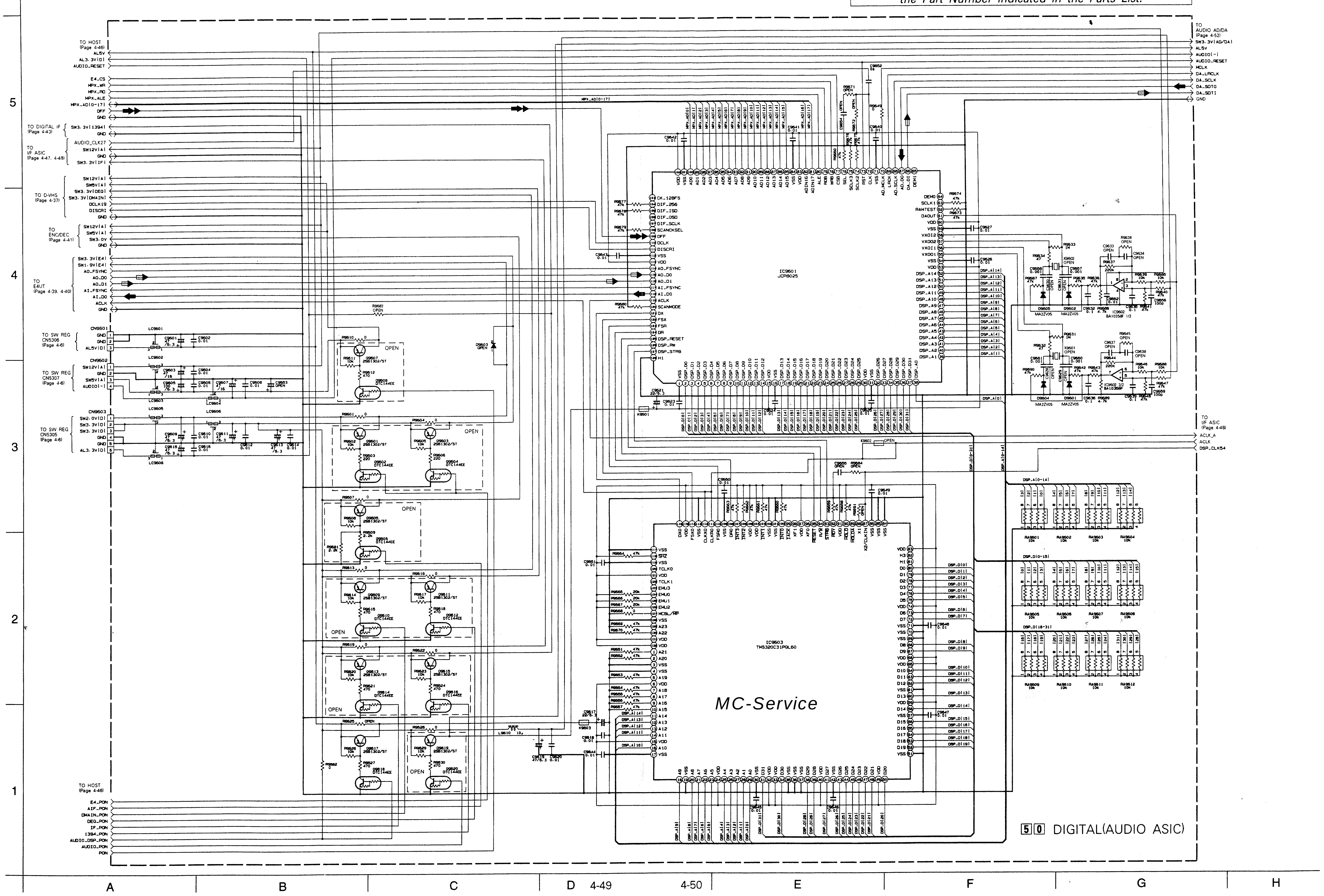
4.23 I/F ASIC SCHEMATIC DIAGRAM

NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.


50 DIGITAL (I/F ASIC)
TO HOST (Page 4-46)
REC_EAR
DFF
CTLIN
CTLOUT
I/F_RESET
SERVOSEQ
SERVO30
MPX_ALE
MPX_AD[0-7]
MPX_WAIT
MPX_RD
MPX_WR
E4_CS
E4_INT
DVHS_INT
CLK27SEL
TO E4UT (Page 4-39)
PCIAD[0-31]
PCI_C_BE[0-3]
PCI_DEVSEL
PCI_FRAME
PCI_GNT
PCI_IDSEL
PCI_INTA
PCI_IRDY
PCI_PAR
PCI_PERR
PCI_REQ
PCI_RST
PCI_SERR
PCI_STOP
PCI_TRDY
IC9301 JCP8023
IC9302 KM416S1120DT-G8
IC9304 NAX0373-001X (TCXO 13.5MHz)
IC9308 TC7SHU04FU
IC9309 TC7SHU04FU
IC9310 TC7SH86FU
IC9303 1/2 BA10358F
IC9305 SN74LVCU04APW
IC9307 SN74LVCU04APW
Q9301 DTA114EUA
TO AUDIO ASIC (Page 4-49) SW12V[A]
TO D-VHS (Page 4-37) TPDATA[0-7]
TPEFLG
TPST
TPIOSEL
SEARCHDATA[0-15]
SEARCHCTL[0-7]
TPN1
TPN0
SEGRST
BYTECLK
TO DIGITAL IF (Page 4-44) NCLK
TO E4UT (Page 4-39) NCLK (27.5MHz)
TO E4UT (Page 4-39) E4_CLK27 PCI_CLK
TO D-VHS (Page 4-37) DMAIN_CLK27
TO ENC/DEC (Page 4-42) VIDEO_CLK27
TO AUDIO ASIC (Page 4-49, 4-50) AUDIO_CLK27 ACLK_A
TO AUDIO ASIC (Page 4-50) ACLK
TO AUDIO ASIC (Page 4-50) DSP_CLK54
TO DIGITAL IF (Page 4-43) BYTECLK TSOE TSEN EDAT[0-7]
TO AUDIO ASIC (Page 4-49) SW3.3V[IF] GND
TP9302 27MOUT
TP9303 54MOUT
TL9301
SRAMA[0-11]
SRAMD[0-15]
EDAT[0-7]
1
2
3
4
5
A
B
C
D
E
F
G
H

4.24 AUDIO ASIC SCHEMATIC DIAGRAM

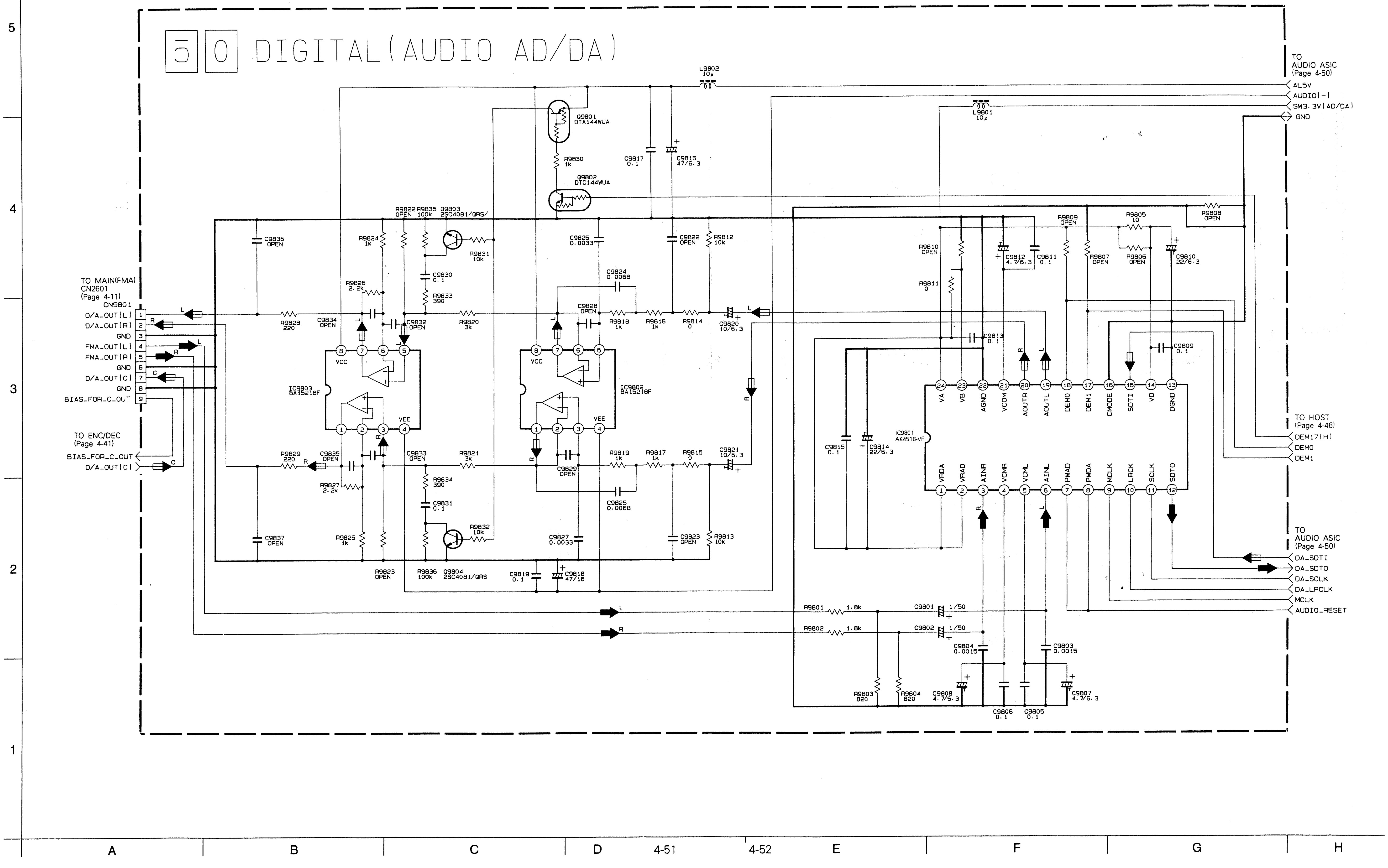
NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.



TO HOST (Page 4-46)
AL5V
AL3.3V(D)
AUDIO_RESET
E4_CS
MPX_WR
MPX_RD
MPX_ALE
MPX_AD(0-17)
DFF
GND
TO DIGITAL I/F (Page 4-43)
SW3.3V(1394)
AUDIO_CLK27
TO I/F ASIC (Page 4-47, 4-48)
SW12V(A)
SW3.3V(IF)
TO D-VHS (Page 4-37)
SW5V(A)
SW3.3V(DEQ)
SW3.3V(DMAIN)
DCLK19
DISCRI
TO ENC/DEC (Page 4-41)
SW3.0V
TO E4UT (Page 4-39, 4-40)
SW3.3V(E4)
SW1.9V(E4)
AO_FSYNC
AO_D0
AO_D1
AI_FSYNC
AI_D0
ACLK
TO SW REG CN5306 (Page 4-6)
CN9601
TO SW REG CN5307 (Page 4-6)
CN9602
AUDIO(-)
TO SW REG CN5305 (Page 4-6)
CN9603
SW2.0V(D)
AL3.3V(D)
TO HOST (Page 4-46)
E4_PON
AIF_PON
DMAIN_PON
DEQ_PON
IF_PON
1394_PON
AUDIO_DSP_PON
AUDIO_PON
PON
IC9601
JCP8025
IC9603
TMS320C31PQL60
IC9602 1/2 BA10358F
IC9602 2/2 BA10358F
TO AUDIO AD/DA (Page 4-52)
SW3.3V(AD/DA)
AL5V
AUDIO(-)
AUDIO_RESET
MCLK
DA_LRCLK
DA_SCLK
DA_SDTO
DA_SDTI
GND
TO I/F ASIC (Page 4-48)
ACLK_A
ACLK
DSP_CLK54
OPEN
5 0 DIGITAL(AUDIO ASIC)
1
2
3
4
5
A
B
C
D
E
F
G
H

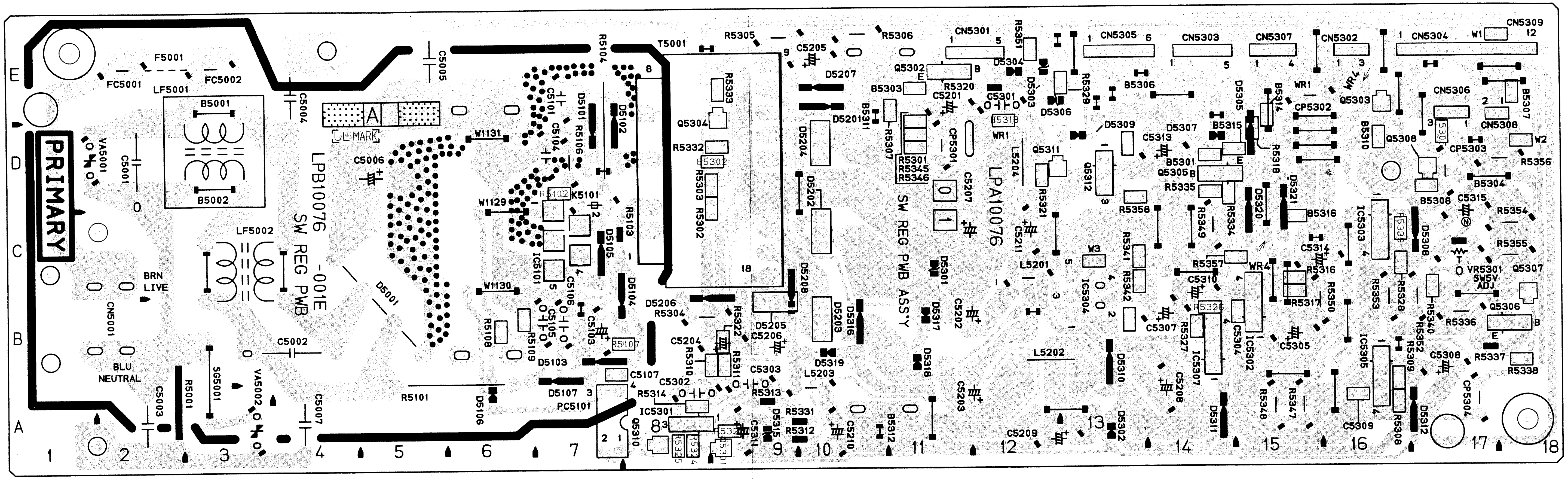
4.25 AUDIO AD/DA SCHEMATIC DIAGRAM

NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.



50 DIGITAL(AUDIO AD/DA)
TO MAIN(FMA)
CN2601
(Page 4-11)
CN9801
D/A_OUT(L) 1
D/A_OUT(R) 2
GND 3
FMA_OUT(L) 4
FMA_OUT(R) 5
GND 6
D/A_OUT(C) 7
GND 8
BIAS_FOR_C_OUT 9
TO ENC/DEC
(Page 4-41)
BIAS_FOR_C_OUT
D/A_OUT(C)
TO AUDIO ASIC
(Page 4-50)
AL5V
AUDIO(-)
SW3.3V(AD/DA)
GND
TO HOST
(Page 4-46)
DEM17(H)
DEMO
DEM1
TO AUDIO ASIC
(Page 4-50)
DA_SDTI
DA_SDTO
DA_SCLK
DA_LRCLK
MCLK
AUDIO_RESET
L9802 10µ
L9801 10µ
Q9801 DTA144WUA
Q9802 DTC144WUA
R9830 1k
C9817 0.1
C9816 47/6.3
R9822 OPEN
R9835 100k
Q9803 2SC4081/QRS/
R9824 1k
R9831 10k
C9836 OPEN
C9830 0.1
R9833 390
R9826 2.2k
R9828 220
C9834 OPEN
C9832 OPEN
R9820 3k
IC9803 BA15218F
VCC
VEE
R9829 220
C9835 OPEN
R9827 2.2k
C9833 OPEN
R9821 3k
R9834 390
C9831 0.1
R9832 10k
C9837 OPEN
R9825 1k
R9823 OPEN
R9836 100k
Q9804 2SC4081/QRS
C9819 0.1
C9818 47/16
C9826 0.0033
C9822 OPEN
R9812 10k
C9824 0.0068
C9828 OPEN
R9818 1k
R9816 1k
R9814 0
C9820 10/6.3
IC9802 BA15218F
R9819 1k
R9817 1k
R9815 0
C9821 10/6.3
C9829 OPEN
C9825 0.0068
C9827 0.0033
C9823 OPEN
R9813 10k
R9810 OPEN
R9811 0
R9809 OPEN
R9805 10
R9808 OPEN
C9812 4.7/6.3
C9811 0.1
R9807 OPEN
R9806 OPEN
C9810 22/6.3
C9813 0.1
C9809 0.1
IC9801 AK4518-VF
VA VB AGND VCOM AOUTR AOUTL DEMO DEM1 CMODE SDTI VD DGND
VRDA VRAD AINR VCMR VCML AINL PWAD PWDA MCLK LRCK SCLK SDTO
C9815 0.1
C9814 22/6.3
R9801 1.8k
R9802 1.8k
C9801 1/50
C9802 1/50
C9804 0.0015
C9803 0.0015
R9803 820
R9804 820
C9808 4.7/6.3
C9807 4.7/6.3
C9806 0.1
C9805 0.1
L
R
C
A B C D E F G H
1 2 3 4 5

4.26 SWITCHING REGULATOR CIRCUIT BOARD


PRIMARY
LPB10076 -001E
SW REG PWB
LPA10076
SW REG PWB ASS'Y
UL MARK
A
E
D
C
B
A
1
2
3
4
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8
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11
12
13
14
15
16
17
18
F5001
FC5001
FC5002
LF5001
LF5002
B5001
B5002
VA5001
VA5002
C5001
C5002
C5003
C5004
C5005
C5006
C5007
CN5001
BRN LIVE
BLU NEUTRAL
R5001
SG5001
D5001
R5101
D5106
W1131
W1129
W1130
C5101
C5103
C5104
C5105
C5106
C5107
D5101
D5102
D5103
D5104
D5105
D5107
R5102
R5103
R5104
R5106
R5107
R5108
R5109
K5101
IC5101
PC5101
T5001
Q5304
R5332
R5333
R5302
R5303
C5204
C5205
C5206
C5302
C5303
D5205
D5206
D5207
D5208
R5304
R5305
R5306
R5310
R5311
R5313
R5314
R5322
R5331
R5312
IC5301
Q5310
D5315
C5311
D5201
D5202
D5203
D5204
D5319
L5203
C5210
B5303
B5311
B5312
R5307
Q5302
R5320
C5201
C5301
CN5301
R5351
D5304
D5303
D5306
B5313
WR1
R5301
R5345
R5346
CP5301
C5207
L5204
Q5311
R5321
C5211
D5301
D5317
D5318
C5202
C5203
L5201
L5202
IC5304
W3
R5341
R5342
Q5312
D5309
D5310
D5302
C5209
R5329
B5306
CN5305
CN5303
CN5307
CN5302
CN5304
CN5309
W1
D5305
D5307
C5313
B5301
Q5305
R5335
R5358
R5349
R5334
B5315
B5314
R5318
D5320
D5321
CP5302
WR4
B5316
R5357
C5310
R5326
R5327
IC5307
C5307
C5304
IC5302
C5208
D5311
R5348
R5347
C5314
R5316
R5317
R5350
C5305
IC5303
IC5305
R5353
Q5303
B5310
Q5308
CN5306
CN5308
B5307
W2
CP5303
R5356
B5304
B5308
C5315
R5354
R5355
D5308
VR5301 SW5V ADJ
Q5307
R5328
R5340
R5352
R5309
Q5306
R5336
C5308
R5337
R5338
CP5304
C5309
R5308
D5312

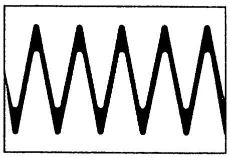
COMPONENT PARTS LOCATION GUIDE <SW REGULATOR>

REF.NO.	LOCATION		
CAPACITOR			
C5001	A	D	2E
C5002	A	D	4B
C5003	A	D	2A
C5004	A	D	4E
C5005	A	D	5E
C5006	A	D	5D
C5007	A	D	4A
C5101	A	D	7E
C5103	A	D	7B
C5104	A	D	7D
C5105	A	D	7B
C5106	A	D	7B
C5107	B	C	7B
C5201	A	D	11E
C5202	A	D	12B
C5203	A	D	12A
C5204	A	D	8B
C5205	A	D	10E
C5206	A	D	9B
C5207	A	D	11C
C5208	A	D	14B
C5209	A	D	13A
C5210	A	D	10A
C5211	A	D	12C
C5301	A	D	12E
C5302	A	D	8A
C5303	A	D	9A
C5304	B	C	15B
C5305	A	D	15B
C5307	A	D	14B
C5308	A	D	17B
C5309	B	C	16A
C5310	A	D	14B
C5311	A	D	9A
C5313	A	D	14D
C5314	A	D	16C
C5315	A	D	17C
CONNECTOR			
CN5001	A	D	1B
CN5301	A	D	11E
CN5302	A	D	16E
CN5303	A	D	14E
CN5304	A	D	16E
CN5305	A	D	13E
CN5306	A	D	17E
CN5307	A	D	15E
CN5308	A	D	18D
DIODE			
D5001	A	D	5B
D5101	A	D	7E
D5102	A	D	7D
D5103	A	D	8B
D5104	A	D	8C
D5105	A	D	7C
D5106	A	D	6A
D5107	A	D	7B
D5201	A	D	9E
D5202	A	D	10C
D5203	A	D	10B
D5204	A	D	10D
D5205	A	D	9B
D5206	A	D	9B
D5207	A	D	10E
D5208	A	D	9C
D5301	A	D	11C
D5302	A	D	13A
D5303	A	D	12E
D5304	A	D	12E
D5305	A	D	15D
D5306	A	D	12E
D5307	A	D	14D
D5308	A	D	17D
D5309	A	D	13D
D5310	A	D	13A
D5311	A	D	14A
D5312	A	D	17A
D5315	A	D	9A
D5316	A	D	10B
D5317	A	D	11B
D5318	A	D	11B
D5319	A	D	10B
D5320	A	D	15C
D5321	A	D	15C
IC			
IC5101	A	D	7C
IC5301	A	D	8A
IC5302	A	D	15B
IC5303	A	D	16C
IC5304	A	D	13B
IC5305	A	D	16B
IC5307	A	D	14B
COIL			
L5201	A	D	12C
L5202	A	D	12B
L5203	A	D	9A
L5204	A	D	12D
TRANSISTOR			
Q5301	B	C	9A
Q5302	A	D	11E
Q5303	B	C	16E
Q5304	B	C	9E
Q5305	A	D	15D
Q5306	A	D	17B
Q5307	B	C	18B
Q5308	B	C	17D
Q5310	B	C	8A
Q5311	B	C	13D
Q5312	A	D	13D
RESISTOR			
R5001	A	D	2B
R5101	A	D	5A
R5102	B	C	7D
R5103	A	D	7C
R5104	A	D	7E
R5106	A	D	7D
R5107	B	C	8B
R5108	B	C	6B
R5109	B	C	6B
R5301	B	C	11D
R5302	B	C	9C
R5303	B	C	9D
R5304	A	D	8B
R5305	A	D	9E
R5306	A	D	10E
R5307	B	C	11E
R5308	B	C	16A
R5309	B	C	16A
R5310	B	C	9B
R5311	B	C	9B
R5312	A	D	9A
R5313	A	D	9A
R5314	B	C	8A
R5316	B	C	15C
R5317	B	C	15B
R5318	B	C	15D
R5320	A	D	12E
R5321	B	C	12D
R5322	B	C	9B
R5323	B	C	9A
R5324	B	C	8A
R5325	B	C	8A
R5326	B	C	14B
R5327	B	C	14B
R5328	B	C	16C
R5329	B	C	13E
R5331	A	D	9A
R5332	B	C	9D
R5333	B	C	9E
R5334	B	C	14D
R5335	B	C	14D
R5336	A	D	17B
R5337	A	D	17B
R5338	B	C	18B
R5339	B	C	16C
R5340	B	C	17C
R5341	B	C	13C
R5342	B	C	13C
R5345	B	C	11D
R5346	B	C	11D
R5347	A	D	15A
R5348	A	D	15A
R5349	A	D	14C
R5350	A	D	15B
R5351	B	C	12E
R5352	A	D	17B
R5353	A	D	16B
R5354	A	D	17C
R5355	A	D	17C
R5356	A	D	17D
R5357	B	C	15C
R5358	B	C	13D
VR5301	A	D	17C
OTHER			
CP5301	A	D	11D
CP5302	A	D	15E
CP5303	A	D	17D
CP5304	A	D	17A
F5001	A	D	2E
K5101	A	D	7D
LF5001	A	D	3D
LF5002	A	D	4C
PC5101	A	D	7A
SG5001	A	D	3A
T5001	A	D	8C
VA5001	A	D	1D
VA5002	A	D	3A

WAVEFORMS <MAIN>

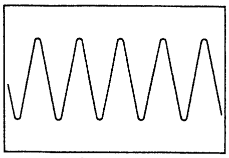
— VIDEO/N.AUDIO —

WF1 IC1-4



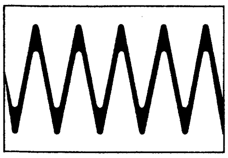
REC 0.7 Vp-p
20 mV/0.5 msec/DIV

WF2 IC1-9



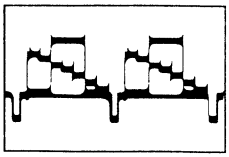
REC 0.92 Vp-p
2 mV/0.5 msec/DIV

WF3 IC1-11



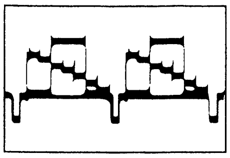
PB 0.45 Vp-p
10 mV/0.5 msec/DIV

WF4-1 IC1-19



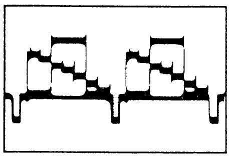
REC 0.51 Vp-p
20 mV/20 μsec/DIV

WF4-2 IC1-19



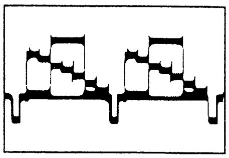
PB 0.55 Vp-p
20 mV/20 μsec/DIV

WF5-1 IC1-23



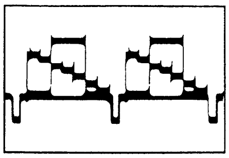
REC 0.48 Vp-p
20 mV/20 μsec/DIV

WF5-2 IC1-23



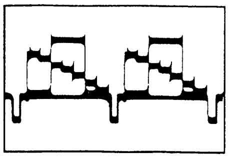
PB 0.52 Vp-p
20 mV/20 μsec/DIV

WF6-1 IC1-42



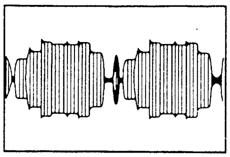
REC 0.4 Vp-p
10 mV/20 μsec/DIV

WF6-2 IC1-42



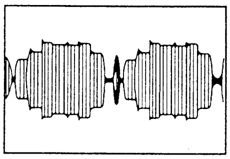
PB 0.44 Vp-p
10 mV/20 μsec/DIV

WF7-1 IC1-46



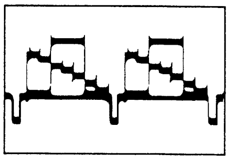
REC 0.22 Vp-p
5 mV/20 μsec/DIV

WF7-2 IC1-46



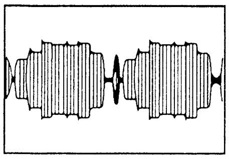
PB 0.3 Vp-p
10 mV/20 μsec/DIV

WF8 IC1-52



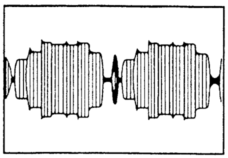
PB 2.2 Vp-p
50 mV/20 μsec/DIV

WF9 IC1-55



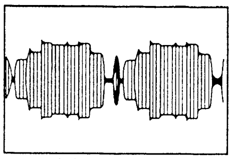
PB 0.6 Vp-p
20 mV/20 μsec/DIV

WF10-1 IC1-58



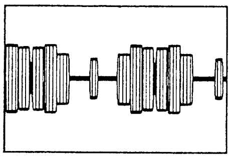
REC 0.36 Vp-p
10 mV/20 μsec/DIV

WF10-2 IC1-58



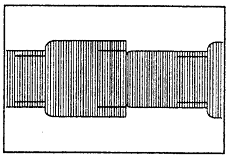
PB 0.46 Vp-p
10 mV/20 μsec/DIV

WF11-1 IC1-78



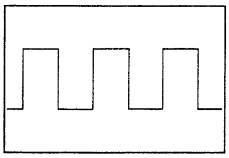
REC 0.66 Vp-p
20 mV/20 μsec/DIV

WF11-2 IC1-78



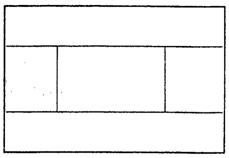
PB 0.24 Vp-p
10 mV/5 msec/DIV

WF12 IC-81



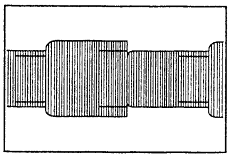
REC/PB 5.0 Vp-p
0.2 V/10 msec/DIV

WF13 IC1-87



REC 2.0 Vp-p
50 mV/1 msec/DIV

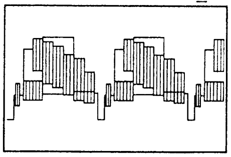
WF14 TP106
PB FM



PB 0.32 Vp-p
10 mV/5 msec/DIV

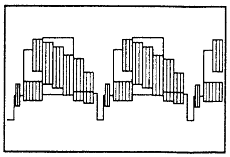
— ON SCREEN —

WF1 IC201-21
CV_IN



REC/PB 2.2 Vp-p
50 mV/20 μsec/DIV

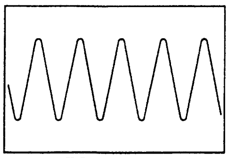
WF2 IC201-19
CVOUT



REC/PB 2.2 Vp-p
50 mV/20 μsec/DIV

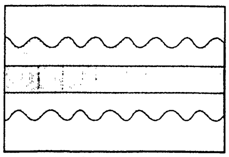
— FMA —

WF1 IC2201-9



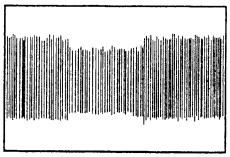
REC 0.11 Vp-p
2 mV/0.5 msec/DIV

WF2 IC2201-29



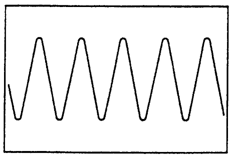
REC 0.52 Vp-p
10 mV/2 msec/DIV

WF3 IC2201-30



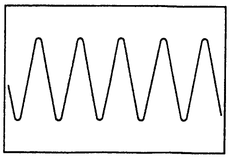
PB 0.64 Vp-p
20 mV/5 msec/DIV

WF4 IC2201-53



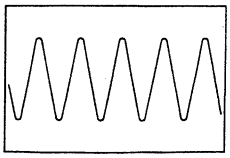
REC/PB 1.12 Vp-p
20 mV/0.5 msec/DIV

WF5 IC2201-61



REC 0.11 Vp-p
2 mV/0.5 msec/DIV

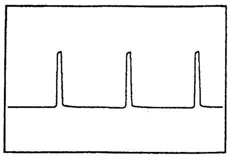
WF6 IC2601-3



REC/PB 0.9 Vp-p
20 mV/0.5 msec/DIV

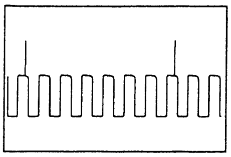
— SYSCON —

WF1 CN3001-4
D.PG



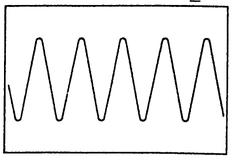
REC/PB 4.8 Vp-p
0.2 V/10 msec/DIV

WF2 CN3001-5
D.FG



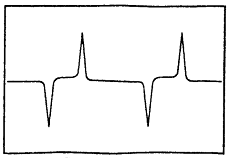
REC/PB 4.5 Vp-p
0.1 V/5 msec/DIV

WF3 CN3003-1
CAP_FG



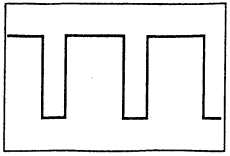
REC/PB 2.5 Vp-p
50 mV/0.5 msec/DIV

WF4 TP4001
CTL. P



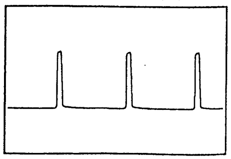
PB 2.0 Vp-p
50 mV/10 msec/DIV

WF5 IC3001-1
CTL(+)



REC 4.0 Vp-p
0.1 V/10 msec/DIV

WF6 IC3001-98
C.SYNC



REC/PB 4.1 Vp-p
0.1 V/20 μsec/DIV

COMPONENT PARTS LOCATION GUIDE <MAIN>

REF.NO.	LOCATION		
CAPACITOR			
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C2	B	C	14G
C3	B	C	14J
C5	B	C	14J
C6	B	C	13I
C7	A	D	13I
C9	B	C	14I
C11	B	C	14I
C12	B	C	14I
C13	A	D	14I
C14	B	C	13H
C15	B	C	13H
C16	B	C	14F
C17	B	C	15H
C18	B	C	15H
C19	B	C	15G
C20	A	D	14G
C21	B	C	14G
C23	B	C	14G
C24	B	C	14G
C25	B	C	14G
C27	B	C	14G
C29	A	D	14H
C30	A	D	14F
C31	B	C	13F
C32	B	C	12F
C33	B	C	12G
C34	B	C	12F
C36	B	C	13H
C37	A	D	12G
C38	B	C	13F
C39	B	C	13F
C41	B	C	12G
C42	B	C	11G
C43	B	C	11F
C44	B	C	11F
C45	B	C	11G
C46	B	C	11G
C47	B	C	11G
C48	A	D	11G
C49	B	C	11G
C51	B	C	11H
C54	A	D	11H
C55	A	D	10G
C56	A	D	10H
C57	B	C	10I
C58	B	C	10H
C59	B	C	10H
C60	B	C	10H
C61	B	C	10I
C62	B	C	10I
C63	B	C	10I
C64	A	D	11I
C65	B	C	11I
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C74	B	C	13F
C75	B	C	16H
C76	B	C	15H
C77	B	C	16G
C78	B	C	16G
C79	B	C	16G
C80	B	C	16G
C81	B	C	14I
C82	B	C	14I
C83	B	C	14I
C84	B	C	13J
C85	B	C	15F
C86	A	D	15F
C87	B	C	15G
C88	B	C	15F
C89	B	C	16F
C90	B	C	15H
C92	B	C	10I
C98	B	C	10I
C99	B	C	11E
C101	B	C	10I
C105	B	C	9N
C107	B	C	13G
C110	B	C	9M
C111	B	C	9M
C112	B	C	9L
C113	B	C	9L
C114	B	C	9L
C115	B	C	10L
C116	B	C	10M
C117	B	C	10L
C118	B	C	10L
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C130	B	C	15E
C131	B	C	15F
C134	B	C	11H
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C143	B	C	5P
C144	B	C	15E
C153	B	C	13E
C154	B	C	12E
C163	B	C	15I
C164	B	C	14I
C165	B	C	15I
C168	A	D	11I
C176	B	C	17H
C182	B	C	12E
C183	B	C	12E
C191	B	C	15F
C193	B	C	12E
C201	A	D	4N
C202	B	C	5M
C203	B	C	5K
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C206	B	C	4M
C207	B	C	4M
C208	B	C	4M
C209	B	C	3M
C210	B	C	3M
C211	B	C	3M
C212	B	C	3M
C213	A	D	3L
C214	B	C	3M
C215	B	C	3M
C216	A	D	2M
C217	B	C	4N
C218	B	C	4N
C219	B	C	3N
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C222	B	C	4M
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C226	B	C	4M
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C304	B	C	18G
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C314	B	C	17G
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C317	B	C	17F
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C320	B	C	18F
C321	B	C	18G
C322	B	C	18G
C323	A	D	17H
C2001	B	C	12I
C2002	A	D	13I
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C2004	A	D	12J
C2005	B	C	11K
C2006	B	C	12I
C2007	A	D	12J
C2008	B	C	12J
C2009	A	D	11J
C2010	A	D	13J
C2011	B	C	11I
C2012	B	C	11I
C2013	B	C	11I
C2015	A	D	10J
C2016	A	D	10J
C2017	B	C	11K
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C2053	B	C	6L
C2054	B	C	6L
C2055	A	D	7L
C2101	B	C	11L
C2102	B	C	11L
C2103	B	C	11L
C2104	B	C	12L
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C2216	A	D	16L
C2217	A	D	16L
C2218	A	D	16M
C2219	A	D	16M
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C2224	B	C	15N
C2225	A	D	15N
C2228	A	D	16M
C2229	A	D	16M
C2230	B	C	14M
C2231	B	C	14L
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C2233	B	C	14K
C2234	B	C	15L
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C2257	A	D	13L
C2258	B	C	14L
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C2602	A	D	11M
C2603	B	C	12M
C2604	B	C	12N
C2605	A	D	12O
C2606	A	D	14O
C2607	A	D	13O
C2608	A	D	14O
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C2610	B	C	13O
C2611	A	D	12M
C2612	A	D	12N
C3001	B	C	4K
C3002	B	C	5J
C3003	A	D	5J
C3004	B	C	8I
C3007	B	C	2E
C3008	B	C	16E
C3010	A	D	2C
C3011	A	D	2C
C3012	A	D	3H
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C3021	B	C	6D
C3022	B	C	9C
C3023	A	D	9B
C3024	B	C	8D
C3025	A	D	8D
C3026	B	C	8D
C3027	A	D	8D
C3028	B	C	7D
C3029	B	C	7D
C3030	A	D	8D
C3031	B	C	7E
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C3037	B	C	8D
C3038	B	C	8F
C3039	B	C	9F
C3040	B	C	4E
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C3051	B	C	4K
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C3071	B	C	4J
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C3110	B	C	5G
C3200	B	C	12D
C3201	B	C	12D
C3312	B	C	18A
C3313	B	C	19A
C3314	B	C	19B
C3321	B	C	19B
C3322	B	C	19B
C3323	B	C	19B
C3333	B	C	20C
C3345	B	C	19D
C3346	B	C	19D
C3347	B	C	19D
C3400	B	C	18A
C3401	A	D	19A
C3416	B	C	20B
C3446	A	D	19D
C3456	B	C	21E
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C4002	B	C	6G
C4003	B	C	5G
C4004	A	D	5H
C4005	B	C	5G
C4006	A	D	5G
C4007	B	C	6G
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C4009	B	C	5G
C4010	B	C	5H
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C4012	B	C	7H
C4013	B	C	7G
C4014	B	C	7G
C4015	B	C	6G
C5306	A	D	1O
C5307	A	D	1O
C5308	A	D	2G
C5309	A	D	1G
C5501	A	D	22N
C5502	A	D	20N
C5503	A	D	19P
C6005	A	D	17M
C6006	B	C	18M
C6007	A	D	17M
C6008	B	C	18M
C6012	A	D	18O
C6013	B	C	18P
C6014	B	C	18P
C6016	B	C	18O
C6020	B	C	18N
C6021	B	C	18N
C6022	B	C	18N
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C6053	B	C	18P
C6054	B	C	18P
C6055	B	C	18O
C6080	B	C	22K
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C6203	A	D	21N
C6204	A	D	21O
C6205	B	C	20L
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C6207	B	C	20O
C6208	B	C	21L
C6209	B	C	21M
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C6212	A	D	21L
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C6217	A	D	21N
C6221	A	D	22L
C6222	A	D	21M
C6223	A	D	21L
C6227	B	C	20M
C6228	A	D	21M
C6230	B	C	20O
C6231	A	D	19M
C6233	B	C	22N
C6234	B	C	21P
C6235	B	C	20O
C6238	A	D	22P
C6239	A	D	21O
C6240	B	C	22P
C6519	B	C	20H
C6520	B	C	21H
C6551	A	D	21E
C6552	B	C	21E
C6553	A	D	21F
C6554	B	C	21F
C7501	B	C	21B
CONNECTOR			
CN1	A	D	12K
CN101	A	D	11O
CN102	A	D	7O
CN606	A	D	9L
CN607	A	D	11L
CN1901	A	D	22C
CN2001	A	D	7K
CN2002	A	D	6K
CN2601	A	D	2N
CN3001	A	D	3K
CN3002	A	D	4K
CN3003	A	D	8J
CN3004	A	D	5B
CN3011	A	D	1C
CN3601	A	D	2H
CN3602	A	D	1D
CN3603	A	D	2D
CN3604	A	D	2H
CN3605	A	D	1F
CN3606	A	D	2L
CN6101	A	D	22C
CN6202	A	D	22M
CN6701	A	D	21G
CN7501	A	D	4P
CN7502	A	D	7P
CN7503	A	D	14P
CN7504	A	D	21A
CN7505	A	D	17P
DIODE			
D16	B	C	14H
D17	B	C	12K
D24	B	C	15J
D101	B	C	8N
D201	B	C	3E
D202	B	C	3L
D203	B	C	3L
D204	B	C	4L
D205	B	C	3C
D206	B	C	2K
D2001	A	D	12J
D2201	A	D	15L
D2601	A	D	10M
D2602	A	D	10M
D3001	A	D	10E
D3002	A	D	7A
D3003	A	D	3F
D3004	A	D	3H
D3005	A	D	2H
D3007	A	D	4D
D3008	B	C	4C
D4001	B	C	8G
D4002	B	C	7H
D5305	A	D	4I
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D5502	A	D	20N
D6002	A	D	17L
D6201	A	D	20O
D6202	A	D	20O
D6551	A	D	21F
IC			
IC1	B	C	12H
IC2	B	C	15G
IC3	B	C	13E
IC4	B	C	14E
IC201	A	D	4M
IC301	A	D	18F
IC2201	B	C	15M
IC2601	B	C	11N
IC2602	B	C	12N
IC2603	A	D	12O
IC3001	B	C	6F
IC3002	B	C	8D
IC3003	A	D	9B
IC3004	A	D	5J
IC3005	B	C	12C
IC3301	B	C	18C
IC3401	B	C	20B
IC3402	B	C	19E
IC3403	B	C	20D
IC6080	B	C	22K
IC6201	A	D	22P
COIL			
L1	A	D	13J
L2	A	D	15G
L3	A	D	15H
L4	A	D	13D
L5	A	D	13F
L6	A	D	13F
L7	A	D	11G
L8	A	D	10I
L9	A	D	12D
L12	A	D	15G
L13	A	D	16G
L14	A	D	9I
L16	A	D	16H
L17	A	D	13G
L18	A	D	13G
L23	A	D	11F
L151	A	D	13F
L181	A	D	12E
L201	A	D	5M
L202	A	D	4L
L203	A	D	4L
L204	A	D	2M
L205	A	D	3M
L206	A	D	3N
L301	A	D	17H
L302	A	D	17G
L303	A	D	17F
L2001	A	D	13J
L2201	A	D	15K
L2251	A	D	13L
L2252	A	D	14K
L3001	A	D	5I
L3002	A	D	4K
L3003	A	D	5K
L6001	A	D	18N
L6002	A	D	18P
L6003	A	D	17P
L6004	A	D	17P
L6031	A	D	21K
L6032	A	D	19K
L6050	A	D	19P
L6051	A	D	18P
L6080	A	D	21K
L6201	A	D	21O
L6202	A	D	21N
L6203	A	D	21O
L6204	A	D	22L
L6208	A	D	20M
TRANSISTOR			
Q1	B	C	14G
Q6	B	C	12F
Q13	B	C	16H
Q14	B	C	16G
Q15	B	C	16F
Q16	B	C	15F
Q17	B	C	15G
Q18	B	C	9I
Q19	B	C	15I
Q20	B	C	15I
Q21	B	C	11E
Q26	B	C	13G
Q27	B	C	14F
Q34	B	C	14I
Q35	B	C	14I
Q36	B	C	14J
Q37	B	C	13J
Q47	B	C	15F
Q48	B	C	14E
Q49	B	C	14G
Q55	B	C	15G
Q101	B	C	9H
Q102	B	C	8N
Q103	B	C	15E
Q104	B	C	15E
Q140	B	C	15E
Q141	B	C	15E
Q152	B	C	15H
Q157	B	C	12D
Q158	B	C	12E
Q159	B	C	12F
Q160	B	C	16E
Q203	B	C	3B
Q204	B	C	5K
Q207	B	C	3N
Q208	B	C	3O
Q301	B	C	17H
Q302	B	C	18F
Q311	B	C	18H
Q312	B	C	18H
Q2001	B	C	7L
Q2002	B	C	7L
Q2003	B	C	6L
Q2051	B	C	6L
Q2052	B	C	6L
Q2053	B	C	6L
Q2054	B	C	6L
Q2055	B	C	6L
Q2151	B	C	14D
Q2152	B	C	14D
Q2253	B	C	14K
Q2601	B	C	10M
Q2602	B	C	10M
Q2603	B	C	10N
Q2604	B	C	9N
Q2605	B	C	10N
Q2606	B	C	10N
Q2607	B	C	10N
Q2608	B	C	9N
Q3001	B	C	4J
Q3002	A	D	3E
Q3003	A	D	17E
Q3004	B	C	3F
Q3005	B	C	3I
Q3008	B	C	4C
Q3009	B	C	4C
Q3050	B	C	12C
Q4001	B	C	5H
Q5301	A	D	3I
Q5302	B	C	3J
Q5303	A	D	1O
Q5304	A	D	1G
Q5305	B	C	1G
Q5307	B	C	2G
Q5501	A	D	22O
Q5502	B	C	22O
Q5503	B	C	22O
Q5504	A	D	20O
Q5505	B	C	20N
Q5506	B	C	19N
Q5507	B	C	19O
Q5508	A	D	19P
Q6030	B	C	19K
Q6031	B	C	19K
Q6032	B	C	20H
Q6033	B	C	20I
Q6035	B	C	20I
Q6501	B	C	20H
Q6502	B	C	20H
Q6551	A	D	21F
RESISTOR			
R1	B	C	15H
R2	B	C	14G
R3	B	C	14G
R4	B	C	14G
R5	B	C	14H
R6	B	C	14G
R7	B	C	13F
R10	B	C	13F
R11	B	C	13F
R12	B	C	14F
R13	B	C	12G
R14	B	C	13G
R15	B	C	11G
R16	B	C	11F
R20	B	C	10H
R23	B	C	9H
R24	B	C	11I
R25	B	C	10I
R46	B	C	16H
R47	B	C	16H
R48	B	C	16H
R49	B	C	16H
R50	B	C	16G
R52	B	C	12J
R54	B	C	16F
R55	B	C	16G
R56	B	C	11G
R57	B	C	15H
R59	B	C	12F
R60	B	C	9O
R62	B	C	10H
R63	B	C	10I
R64	B	C	9I
R68	B	C	13F
R69	B	C	13F
R71	B	C	15G
R73	B	C	9O
R74	B	C	10J
R75	B	C	12F
R94	B	C	16F
R95	B	C	6O
R96	B	C	6O
R97	B	C	10O
R98	B	C	10O
R99	B	C	11F
R101	B	C	9H
R112	B	C	14F
R116	B	C	13G
R120	B	C	15I
R121	B	C	15J
R122	B	C	15I
R126	B	C	15F
R127	B	C	15E
R128	B	C	15F
R129	B	C	15F
R130	B	C	16F
R137	B	C	13H
R140	B	C	15D
R151	B	C	16F
R159	B	C	13E
R161	B	C	12E
R162	B	C	12E
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R166	B	C	12F
R168	B	C	14F
R169	B	C	14E
R170	B	C	13G
R171	B	C	14G
R172	B	C	15E
R178	B	C	14G
R179	B	C	14G
R181	B	C	8N
R182	B	C	8N
R195	B	C	10H
R197	B	C	10H
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R202	B	C	3L
R203	B	C	3L
R204	B	C	3L
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R215	B	C	5N
R216	B	C	5M
R217	B	C	5M
R218	B	C	3N
R219	B	C	5L
R220	B	C	5N
R223	B	C	4N
R224	B	C	3N
R225	B	C	3O
R301	B	C	18H
R302	B	C	18H
R303	B	C	17H
R304	B	C	17H
R305	B	C	17H
R306	B	C	17G
R307	B	C	16G
R308	B	C	17G
R309	B	C	16F
R310	B	C	17G
R311	B	C	17F
R312	B	C	18G
R313	B	C	18G
R314	B	C	18F
R315	B	C	18F
R316	B	C	18F
R321	B	C	18H
R326	B	C	17G
R327	B	C	18F
R328	B	C	17F
R329	B	C	18G
R2001	B	C	12J
R2002	B	C	12J
R2003	B	C	12I
R2004	B	C	12J
R2005	B	C	12J
R2006	B	C	11K
R2007	B	C	11K
R2009	B	C	11J
R2010	B	C	11J
R2013	B	C	11J
R2014	B	C	11J
R2018	B	C	6L
R2019	B	C	7L
R2020	B	C	11K
R2051	B	C	6K
R2052	B	C	6K
R2053	B	C	6K
R2054	B	C	6L
R2055	B	C	6K
R2056	B	C	6L
R2057	B	C	6L
R2058	B	C	6L
R2059	B	C	6L
R2060	B	C	6L
R2151	B	C	14D
R2152	B	C	14D
R2201	B	C	14N
R2202	B	C	14N
R2203	B	C	14N
R2204	B	C	14N
R2206	B	C	13M
R2207	B	C	13M
R2208	B	C	13M
R2209	B	C	13M
R2210	B	C	13M
R2211	B	C	13M
R2212	B	C	14M
R2213	B	C	13M
R2214	B	C	13M
R2215	B	C	13M
R2216	B	C	13M
R2217	B	C	13M
R2218	B	C	15N
R2219	B	C	16N
R2220	B	C	16N
R2221	B	C	16N
R2222	B	C	16N
R2225	B	C	15N
R2226	B	C	15N
R2227	B	C	15N
R2232	B	C	16M
R2233	B	C	16M
R2234	B	C	16M
R2235	B	C	16M
R2236	B	C	13M
R2237	B	C	13L
R2238	B	C	14K
R2239	B	C	15K
R2240	B	C	15K
R2244	B	C	15N
R2251	B	C	15K
R2252	B	C	14K
R2254	B	C	14K
R2601	B	C	10N
R2602	B	C	10M
R2603	B	C	10M
R2604	B	C	10M
R2605	B	C	11N
R2606	B	C	11N
R2607	B	C	11M
R2608	B	C	11N
R2609	B	C	12O
R2610	B	C	13O
R2611	B	C	12O
R2612	B	C	13O
R2613	B	C	12O
R2614	B	C	13O
R2615	B	C	12O
R2616	B	C	14O
R2617	B	C	13P
R2618	B	C	13P
R2619	B	C	13O
R2620	B	C	9M
R2621	B	C	12M
R2622	B	C	12N
R3011	B	C	4G
R3012	B	C	4G
R3013	B	C	5G
R3014	B	C	4G
R3015	B	C	5G
R3016	B	C	4G
R3017	B	C	5F
R3018	B	C	4F
R3019	B	C	4F
R3020	B	C	5F
R3021	B	C	5F
R3022	B	C	5F
R3024	B	C	4F
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R3034	B	C	5E
R3035	B	C	4E
R3036	B	C	4D
R3037	B	C	5E
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R3040	B	C	5E
R3041	B	C	5E
R3042	B	C	4D
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R3046	B	C	5D
R3047	B	C	5D
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R3059	B	C	7C
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R3092	B	C	8F
R3093	B	C	8F
R3094	B	C	8F
R3095	B	C	8G
R3096	B	C	8F
R3097	B	C	8G
R3103	B	C	7G
R3104	B	C	7G
R3105	B	C	7H
R3106	B	C	7G
R3201	B	C	5J
R3202	B	C	4I
R3203	B	C	4I
R3204	B	C	4J
R3205	A	D	10D
R3206	B	C	4G
R3207	B	C	3C
R3208	B	C	14B
R3209	B	C	13A
R3210	B	C	7B
R3211	B	C	7B
R3212	B	C	3G
R3213	B	C	6A
R3214	B	C	3B
R3215	B	C	3B
R3216	B	C	3B
R3217	B	C	3E
R3218	B	C	2I
R3219	B	C	3F
R3220	B	C	2F
R3222	B	C	3H
R3223	B	C	9C
R3224	B	C	9C
R3225	B	C	18A
R3226	B	C	6D
R3227	B	C	4F
R3228	B	C	7D
R3229	B	C	7E
R3230	B	C	8D
R3231	B	C	8D
R3232	B	C	4F
R3233	B	C	4C
R3234	B	C	4C
R3235	B	C	12C
R3236	B	C	12C
R3237	B	C	2B
R3238	B	C	2C
R3240	B	C	2B
R3241	B	C	4B
R3242	B	C	4F
R3243	B	C	7D
R3244	B	C	6C
R3246	B	C	4F
R3247	B	C	5F
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R3252	B	C	4G
R3253	B	C	2D
R3260	B	C	12C
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R3332	B	C	20C
R3333	B	C	19C
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R3346	B	C	19D
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R3349	B	C	21D
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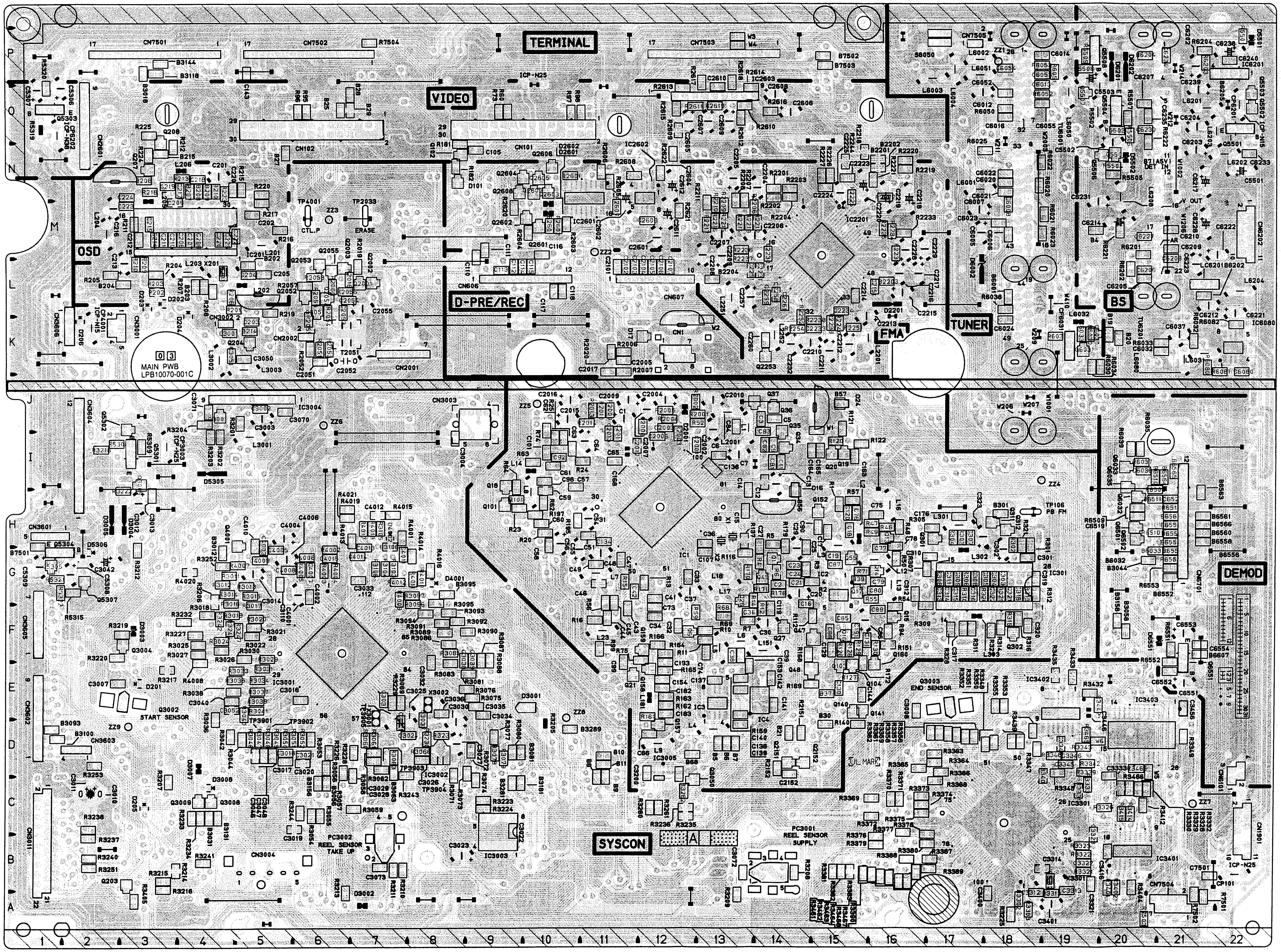
R3378	B	C	17B
R3379	B	C	16B
R3380	B	C	17B
R3381	B	C	15B
R3382	B	C	15B
R3383	B	C	15B
R3387	B	C	17B
R3388	B	C	16B
R3389	B	C	17B
R3390	B	C	16B
R3401	B	C	20B
R3402	B	C	20B
R3404	B	C	20B
R3405	B	C	3A
R3412	B	C	20C
R3414	B	C	20C
R3415	B	C	20C
R3432	B	C	19E
R3433	B	C	19E
R3435	B	C	19E
R3439	B	C	18D
R3442	B	C	19E
R3461	B	C	15B
R3462	B	C	16B
R3463	B	C	16B
R3464	B	C	16B
R3465	B	C	19D
R3466	B	C	20D
R3467	B	C	16B
R3468	B	C	16B
R4001	B	C	7H
R4002	B	C	6G
R4003	B	C	6G
R4004	B	C	6G
R4005	B	C	6G
R4006	B	C	6G
R4007	B	C	5G
R4008	B	C	4E
R4009	B	C	7G
R4010	B	C	8G
R4011	B	C	8G
R4012	B	C	7G
R4013	B	C	7H
R4014	B	C	8G
R4015	B	C	7H
R4016	B	C	8G
R4017	B	C	7H
R4018	B	C	7H
R4019	B	C	6H
R4020	B	C	4G
R4021	B	C	6H
R5308	B	C	2I
R5309	B	C	3I
R5315	B	C	2G
R5319	A	D	1O
R5320	B	C	1O
R5321	B	C	1G
R5322	B	C	1G
R5501	B	C	22P
R5502	A	D	19O
R5503	B	C	20O
R5504	B	C	20N
R5505	B	C	20N
R5506	B	C	20O
R5507	B	C	20O
R5508	B	C	19P
R5509	B	C	19P
R6020	B	C	18N
R6021	B	C	18M
R6022	B	C	18N
R6023	B	C	18M
R6025	B	C	17N
R6030	B	C	19K
R6031	B	C	19K
R6032	B	C	21K
R6033	B	C	21K
R6034	B	C	19K
R6035	B	C	20I
R6037	B	C	20I
R6038	B	C	18L
R6039	B	C	20I
R6050	B	C	18O
R6051	B	C	19P
R6052	B	C	18O
R6053	B	C	18P
R6080	B	C	21K
R6081	B	C	22K
R6082	B	C	22K
R6201	B	C	20M
R6202	B	C	20L
R6203	B	C	21P
R6204	B	C	21P
R6221	B	C	20M
R6222	B	C	20O
R6508	B	C	20H
R6509	B	C	20H
R6510	B	C	20H
R6511	B	C	21H
R6551	B	C	21F
R6552	B	C	21E
R6553	B	C	21G
R6554	B	C	21G
R7501	B	C	21A
R7502	B	C	21A
R7503	B	C	20A
R7504	B	C	7P
TEST POINT			
TP106	A	D	18H
TP2033	A	D	7M
TP3901	B	C	5D
TP3902	B	C	5D
TP3903	B	C	7D
TP3904	B	C	8C
TP3905	B	C	7E
TP4001	A	D	6M
OTHER			
CF6031	A	D	19K
CP101	A	D	22B
CP3003	A	D	3I
CP4001	A	D	2K
CP6201	A	D	22O
CP6202	A	D	1N
LC6201	A	D	21L
PC3001	A	D	14B
PC3002	A	D	7B
S6050	A	D	17P
T2051	A	D	6K
TU6001	A	D	18P
TU6201	A	D	20P
X1	A	D	13H
X2	A	D	13H
X201	A	D	4L
X3001	A	D	7E
X3002	A	D	8E
X3301	A	D	19B

4.27 MAIN AND A/C HEAD CIRCUIT BOARDS


TERMINAL
VIDEO
OSD
D-PRE/REC
TUNER
BS
FMA
DEMOD
SYSCON
MAIN PWB
LPB10070-001C
START SENSOR
END SENSOR
REEL SENSOR TAKE UP
REEL SENSOR SUPPLY
CN7501
CN7502
CN7503
P
O
N
M
L
K
J
I
H
G
F
E
D
C
B
A
1
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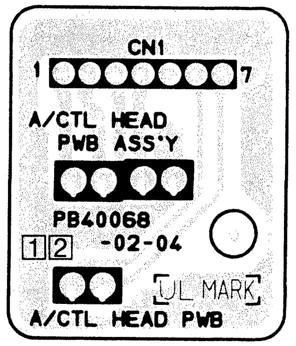
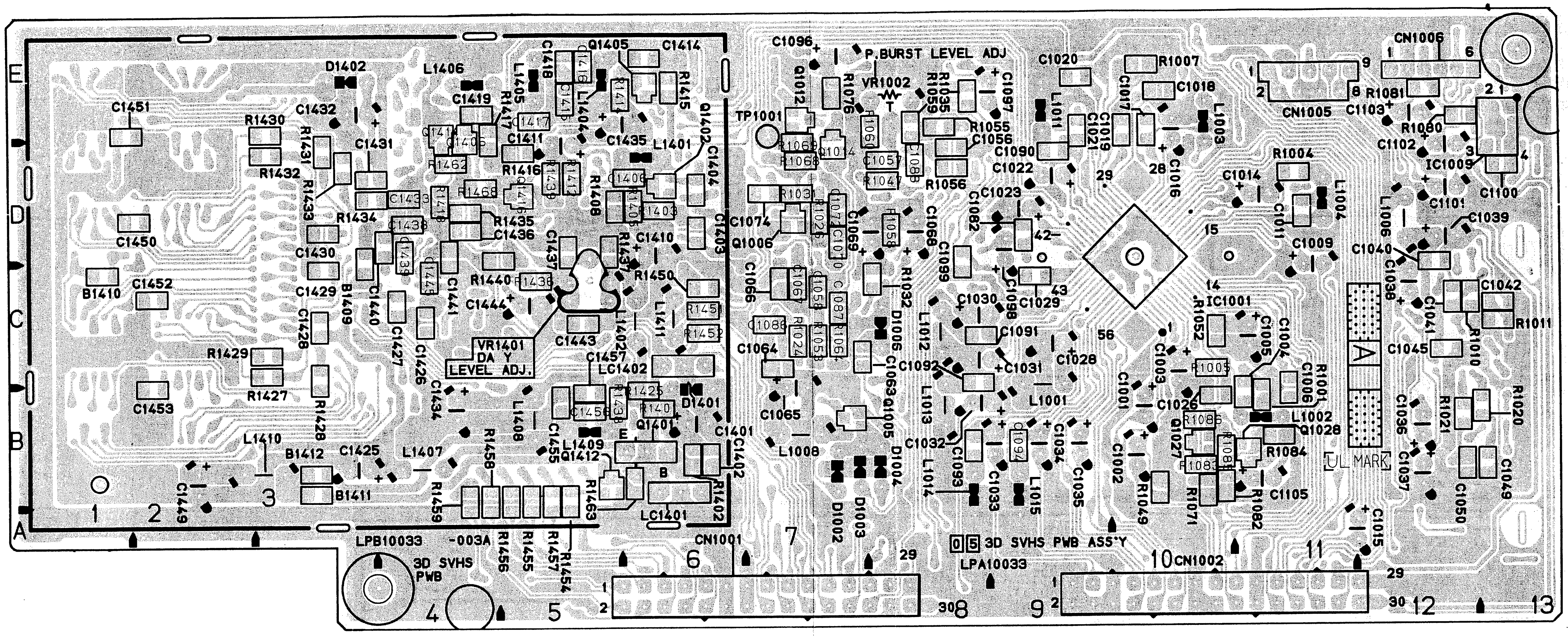
20
21
22

— A/C HEAD —


CN1
1
7
A/CTL HEAD
PWB ASS'Y
PB40068
1 2 -02-04
UL MARK
A/CTL HEAD PWB

4.28 3D SVHS CIRCUIT BOARD

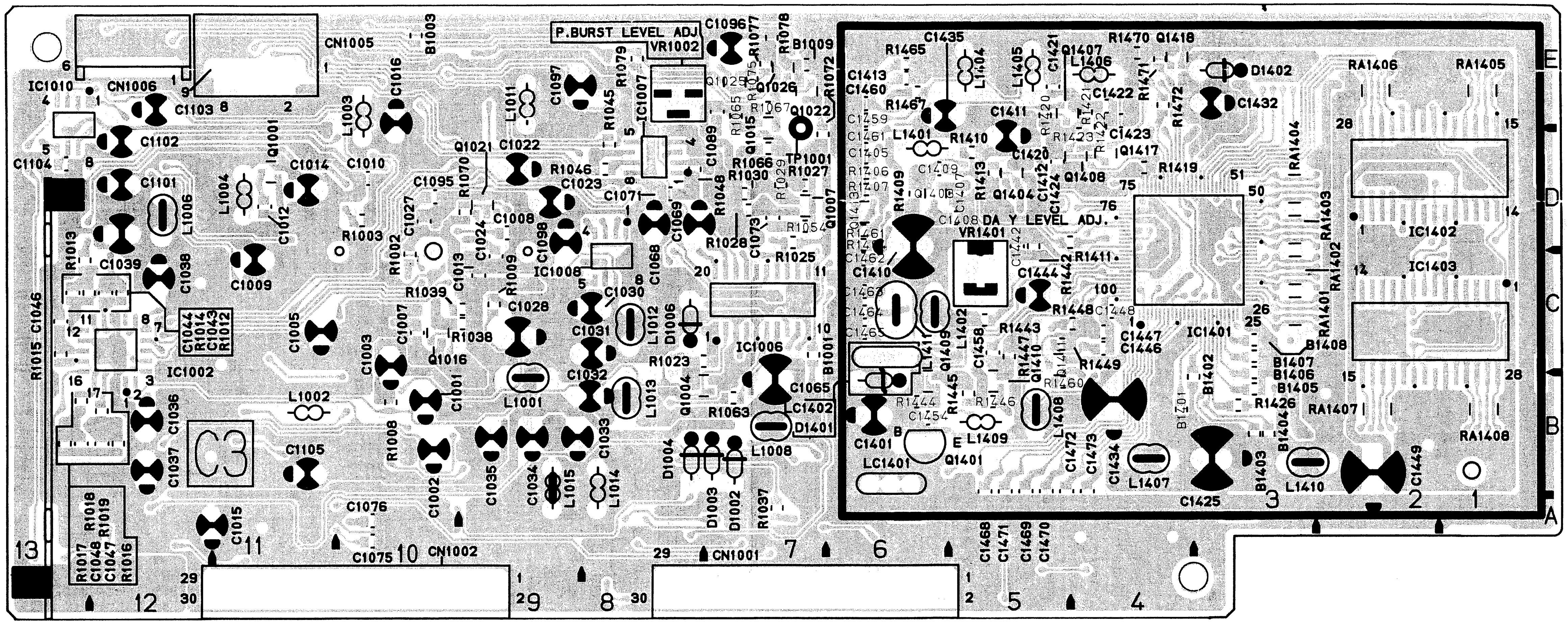
— FOIL SIDE (B) —



COMPONENT PARTS LOCATION GUIDE <3D SVHS>

REF.NO.	LOCATION		
CAPACITOR			
C1001	A	D	10B
C1002	A	D	10B
C1003	A	D	10C
C1004	B	C	11B
C1005	A	D	11C
C1006	B	C	11B
C1007	A	C	10C
C1008	A	C	9D
C1009	A	D	11C
C1010	A	C	10D
C1011	B	C	11D
C1012	A	C	11D
C1013	A	C	9C
C1014	A	D	11D
C1015	A	D	12A
C1016	A	D	10D
C1017	B	C	10E
C1018	B	C	10E
C1019	B	C	10E
C1020	B	C	9E
C1021	B	C	9E
C1022	A	D	9D
C1023	A	D	9D
C1024	A	C	9C
C1026	B	C	10B
C1027	A	C	10D
C1028	A	D	9C
C1029	B	C	9C
C1030	A	D	8C
C1031	A	D	9C
C1032	A	D	9B
C1033	A	D	9B
C1034	A	D	9B
C1035	A	D	9B
C1036	A	D	12B
C1037	A	D	12B
C1038	A	D	12C
C1039	A	D	12D
C1040	B	C	12C
C1041	B	C	12C
C1042	B	C	13C
C1043	A	C	12C
C1044	A	C	13C
C1045	B	C	12C
C1046	A	C	13C
C1047	A	C	12B
C1048	A	C	13B
C1049	B	C	13B
C1050	B	C	12B
C1056	B	C	8D
C1057	B	C	8D
C1058	B	C	7C
C1063	B	C	7C
C1064	B	C	7C
C1065	A	D	7B
C1066	B	C	7C
C1067	B	C	7C
C1068	A	D	8D
C1069	A	D	8D
C1070	B	C	7D
C1071	A	C	8D
C1072	B	C	7D
C1073	A	C	7D
C1074	B	C	7D
C1075	A	C	10A
C1076	A	C	10A
C1082	B	C	9D
C1086	B	C	7C
C1087	B	C	7C
C1088	B	C	8D
C1089	A	C	7E
C1090	B	C	9D
C1091	B	C	8C
C1092	B	C	8B
C1093	B	C	8B
C1094	B	C	9B
C1095	A	C	10D
C1096	A	D	7E
C1097	A	D	9E
C1098	A	D	9C
C1099	B	C	8C
C1100	B	C	13D
C1101	A	D	12D
C1102	A	D	12D
C1103	A	D	12E
C1104	A	C	13D
C1105	A	D	11B
C1401	A	D	6B
C1402	B	C	6B
C1403	B	C	6D
C1404	B	C	6D
C1405	A	C	6D
C1406	B	C	6D
C1407	A	C	5D
C1408	A	C	5D
C1409	A	C	6D
C1410	A	D	6D
C1411	A	D	5D
C1412	A	C	5D
C1413	A	C	6E
C1414	B	C	6E
C1415	B	C	5E
C1416	B	C	5E
C1417	B	C	5E
C1418	B	C	5E
C1419	B	C	4E
C1420	A	C	5D
C1421	A	C	5E
C1422	A	C	4E
C1423	A	C	4E
C1424	A	C	5D
C1425	A	D	3B
C1426	B	C	4C
C1427	B	C	4C
C1428	B	C	3C
C1429	B	C	3C
C1430	B	C	3D
C1431	B	C	3D
C1432	A	D	3E
C1433	B	C	4D
C1434	A	D	4B
C1435	A	D	5E
C1436	B	C	4D
C1437	B	C	5D
C1438	B	C	4D
C1439	B	C	4D
C1440	B	C	4D
C1441	B	C	4D
C1442	A	C	5D
C1443	B	C	5C
C1444	A	D	5C
C1445	B	C	4C
C1446	A	C	4C
C1447	A	C	4C
C1448	A	C	4C
C1449	A	D	2B
C1450	B	C	2D
C1451	B	C	1E
C1452	B	C	2C
C1453	B	C	2B
C1454	A	C	6B
C1455	B	C	5B
C1456	B	C	5B
C1457	B	C	5B
C1458	A	C	5C
C1459	A	C	6E
C1460	A	C	6E
C1461	A	C	6D
C1462	A	C	6C
C1463	A	C	6C
C1464	A	C	6C
C1465	A	C	6C
C1468	A	C	5B
C1469	A	C	5B
C1470	A	C	5B
C1471	A	C	5B
C1472	A	C	5B
C1473	A	C	4B
CONNECTOR			
CN1001	A	D	6A
CN1002	A	D	9A
CN1005	A	D	11E
CN1006	A	D	12E
DIODE			
D1002	A	D	7B
D1003	A	D	7B
D1004	A	D	8B
D1006	A	D	8C
D1401	A	D	6B
D1402	A	D	3E
IC			
IC1001	B	C	10D
IC1002	A	C	12C
IC1006	A	C	7C
IC1007	A	C	8D
IC1008	A	C	8C
IC1009	B	C	13E
IC1010	A	C	13E
IC1401	A	C	4D
IC1402	A	C	2D
IC1403	A	C	2C
COIL			
L1001	A	D	9B
L1002	A	D	11B
L1003	A	D	10D
L1004	A	D	11D
L1006	A	D	12D
L1008	A	D	7B
L1011	A	D	9E
L1012	A	D	8C
L1013	A	D	8B
L1014	A	D	8A
L1015	A	D	9A
L1401	A	D	6D
L1402	A	D	6C
L1404	A	D	5E
L1405	A	D	5E
L1406	A	D	4E
L1407	A	D	4B
L1408	A	D	5B
L1409	A	D	5B
L1410	A	D	3B
L1411	A	D	6C
TRANSISTOR			
Q1001	A	C	11D
Q1004	A	C	8B
Q1005	B	C	7B
Q1006	B	C	7D
Q1007	A	C	7D
Q1012	B	C	7E
Q1014	B	C	7D
Q1015	A	C	7E
Q1016	A	C	10C
Q1021	A	C	9D
Q1022	A	C	7E
Q1025	A	C	7E
Q1026	A	C	7E
Q1027	B	C	10B
Q1028	B	C	11B
Q1401	A	D	6B
Q1402	B	C	6D
Q1403	A	C	6D
Q1404	A	C	5D
Q1405	B	C	6E
Q1406	B	C	4D
Q1407	A	C	5E
Q1408	A	C	4D
Q1409	A	C	6B
Q1410	A	C	5B
Q1411	A	C	5C
Q1412	B	C	5B
Q1413	A	C	6D
Q1414	B	C	4D
Q1416	B	C	5D
Q1417	A	C	4D
Q1418	A	C	4E
RESISTOR			
R1001	B	C	11B
R1002	A	C	10C
R1003	A	C	10D
R1004	B	C	11D
R1005	B	C	10C
R1007	B	C	10E
R1008	A	C	10B
R1009	A	C	9C
R1010	B	C	12C
R1011	B	C	13C
R1012	A	C	12C
R1013	A	C	13C
R1014	A	C	13C
R1015	A	C	13C
R1016	A	C	12B
R1017	A	C	13B
R1018	A	C	13B
R1019	A	C	12B
R1020	B	C	13B
R1021	B	C	12B
R1023	A	C	8C
R1024	B	C	7C
R1025	A	C	7D
R1026	B	C	7D
R1027	A	C	7D
R1028	A	C	7D
R1029	A	C	7D
R1030	A	C	7D
R1031	B	C	7D
R1032	B	C	8C
R1035	B	C	8E
R1037	A	C	7A
R1038	A	C	9C
R1039	A	C	9C
R1045	A	C	8D
R1046	A	C	8D
R1047	B	C	8D
R1048	A	C	8D
R1049	B	C	10B
R1052	B	C	10C
R1053	B	C	7C
R1054	A	C	7D
R1055	B	C	8E
R1056	B	C	8D
R1058	B	C	8D
R1059	B	C	8E
R1060	B	C	8E
R1063	A	C	7B
R1064	B	C	7C
R1065	A	C	7E
R1066	A	C	7D
R1067	A	C	7E
R1068	B	C	7D
R1069	B	C	7D
R1070	A	C	9D
R1071	B	C	10B
R1072	A	C	7D
R1075	A	C	7E
R1076	B	C	7E
R1077	A	C	7E
R1078	A	C	7E
R1079	A	C	8E
R1080	B	C	12E
R1081	B	C	12E
R1082	B	C	10B
R1083	B	C	10B
R1084	B	C	11B
R1085	B	C	10B
R1086	B	C	10B
R1401	B	C	6B
R1402	B	C	6B
R1403	B	C	6D
R1404	A	C	6D
R1405	B	C	6D
R1406	A	C	6D
R1407	A	C	6D
R1408	B	C	5D
R1409	A	C	6D
R1410	A	C	5D
R1411	A	C	5D
R1412	B	C	5D
R1413	A	C	5D
R1414	B	C	6E
R1415	B	C	6E
R1416	B	C	5D
R1417	B	C	4D
R1418	B	C	4D
R1419	A	C	4D
R1420	A	C	5E
R1421	A	C	4E
R1422	A	C	4E
R1423	A	C	4D
R1425	B	C	6B
R1426	A	C	3B
R1427	B	C	3C
R1428	B	C	3C
R1429	B	C	3C
R1430	B	C	3E
R1431	B	C	3D
R1432	B	C	3D
R1433	B	C	3D
R1434	B	C	3D
R1435	B	C	4D
R1436	B	C	5C
R1437	B	C	5D
R1438	B	C	5B
R1439	B	C	5D
R1440	B	C	5D
R1442	A	C	5D
R1443	A	C	5C
R1444	A	C	6B
R1445	A	C	5B
R1446	A	C	5B
R1447	A	C	5C
R1448	A	C	4C
R1449	A	C	5C
R1450	B	C	6C
R1451	B	C	6C
R1452	B	C	6C
R1454	B	C	5B
R1455	B	C	5B
R1456	B	C	5B
R1457	B	C	5B
R1458	B	C	4B
R1459	B	C	4B
R1460	A	C	5B
R1461	A	C	6D
R1462	B	C	4D
R1463	B	C	6B
R1465	A	C	6E
R1467	A	C	6E
R1468	B	C	4D
R1470	A	C	4E
R1471	A	C	4E
R1472	A	C	4E
RA1401	A	C	3C
RA1402	A	C	3C
RA1403	A	C	3D
RA1404	A	C	3D
RA1405	A	C	1E
RA1406	A	C	2E
RA1407	A	C	2B
RA1408	A	C	1B
OTHER			
LC1401	A	D	6B
LC1402	A	D	6C
TP1001	A	D	7E
VR1002	A	D	8E
VR1401	A	D	5C

— COMPONENT SIDE (A) —


P.BURST LEVEL ADJ
VR1002
DA Y LEVEL ADJ.
VR1401
CN1005
CN1006
CN1002
CN1001
IC1010
IC1001
IC1002
IC1006
IC1007
IC1008
IC1401
IC1402
IC1403
Q1001
Q1004
Q1016
Q1021
Q1022
Q1025
Q1026
Q1401
Q1404
Q1407
Q1408
Q1410
Q1417
Q1418
TP1001
LC1401
RA1403
RA1404
RA1405
RA1406
RA1407
RA1408
D1003
D1002
D1004
D1006
D1401
D1402
L1001
L1002
L1003
L1004
L1006
L1008
L1011
L1012
L1013
L1014
L1015
L1401
L1402
L1404
L1405
L1406
L1407
L1408
L1409
L1410
C3
A
B
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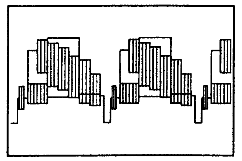
13

WAVEFORMS

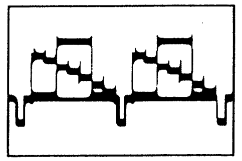
— 3D SVHS(VIDEO) —

WF1 CN1002-7



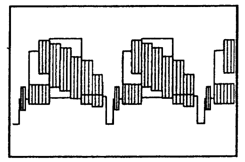
REC 0.8 Vp-p
20 mV/20 μsec/DIV

WF2 IC1001-46



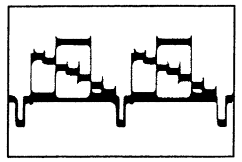
REC 1.0 Vp-p
20 mV/20 μsec/DIV

WF3-1 IC1001-43



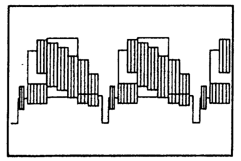
REC 0.56 Vp-p
20 mV/20 μsec/DIV

WF3-2 IC1001-43



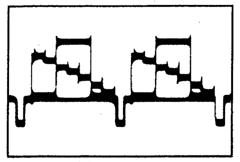
REC/PB 0.57 Vp-p
20 mV/20 μsec/DIV

WF4-1 IC1001-39



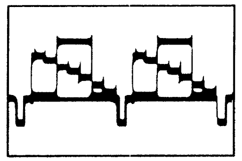
REC 1.8 Vp-p
50 mV/20 μsec/DIV

WF4-2 IC1001-39



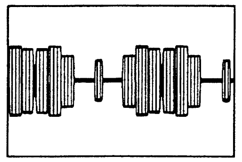
REC/PB 1.7 Vp-p
50 mV/20 μsec/DIV

WF5 IC1001-37



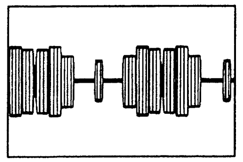
REC/PB 0.82 Vp-p
20 mV/20 μsec/DIV

WF6 IC1001-35



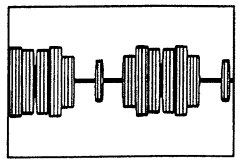
REC/PB 0.68 Vp-p
20 mV/20 μsec/DIV

WF7-1 IC1001-33



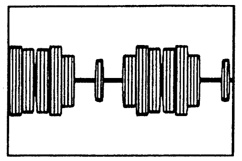
REC 0.36 Vp-p
10 mV/20 μsec/DIV

WF7-2 IC1001-33



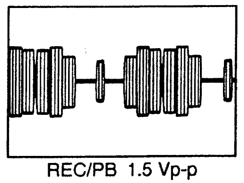
PB 0.46 Vp-p
10 mV/20 μsec/DIV

WF8 IC1001-28



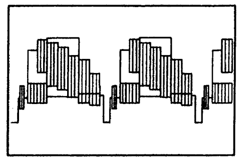
REC 0.7 Vp-p
20 mV/20 μsec/DIV

WF9 IC1001-26



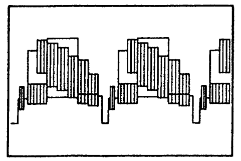
REC/PB 1.5 Vp-p
50 mV/20 μsec/DIV

WF10 IC1001-25



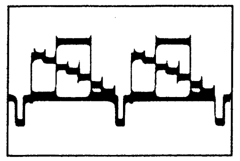
REC/PB 2.2 Vp-p
50 mV/20 μsec/DIV

WF11 IC1001-23



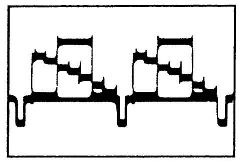
REC/PB 2.2 Vp-p
50 mV/20 μsec/DIV

WF12 IC1001-21



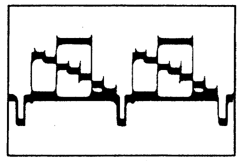
REC/PB 2.2 Vp-p
50 mV/20 μsec/DIV

WF13 IC1001-15



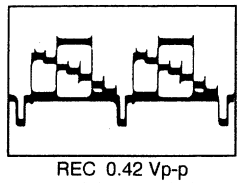
REC 2.2 Vp-p
20 mV/20 μsec/DIV

WF14 IC1001-5



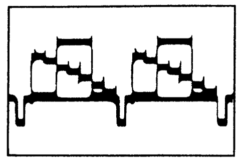
PB 0.6 Vp-p
20 mV/20 μsec/DIV

WF15-1 IC1001-56



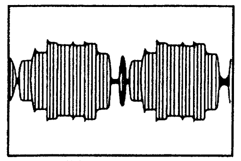
REC 0.42 Vp-p
10 mV/20 μsec/DIV

WF15-2 IC1001-56



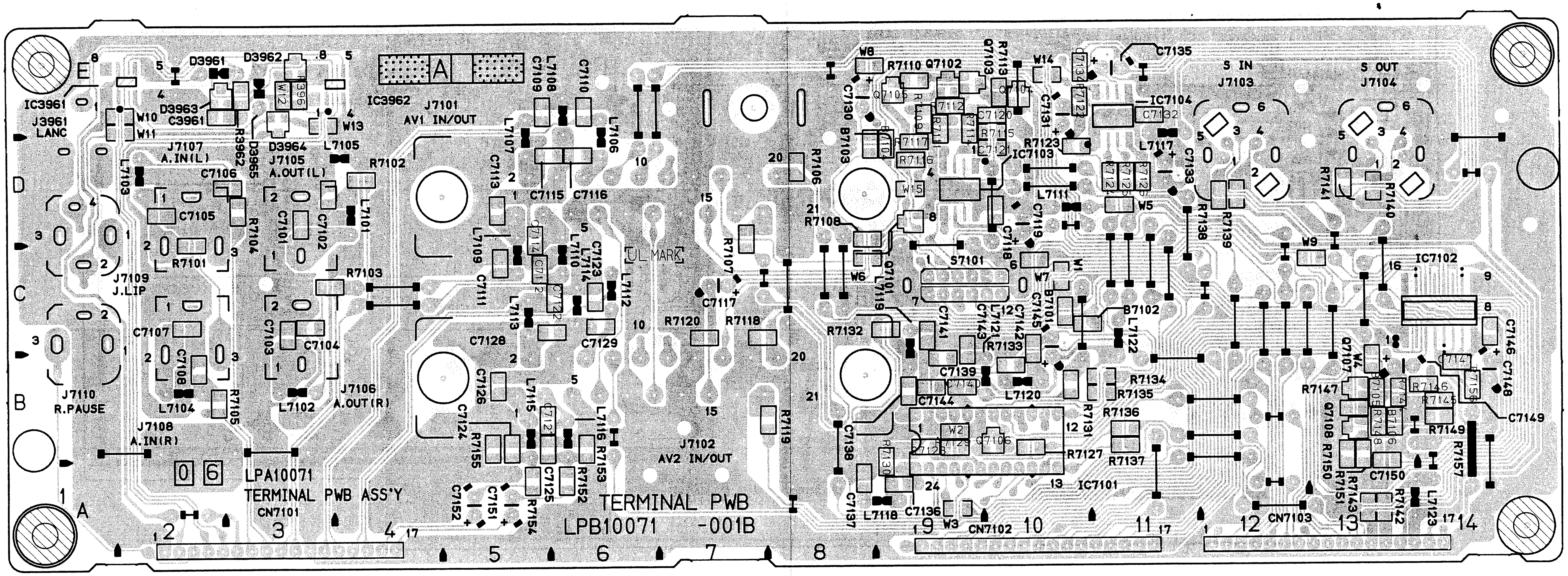
PB 0.52 Vp-p
20 mV/20 μsec/DIV

WF16 CN1001-22



PB 0.62 Vp-p
20 mV/20 μsec/DIV

4.29 TERMINAL CIRCUIT BOARD


E
D
C
B
A
1
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7
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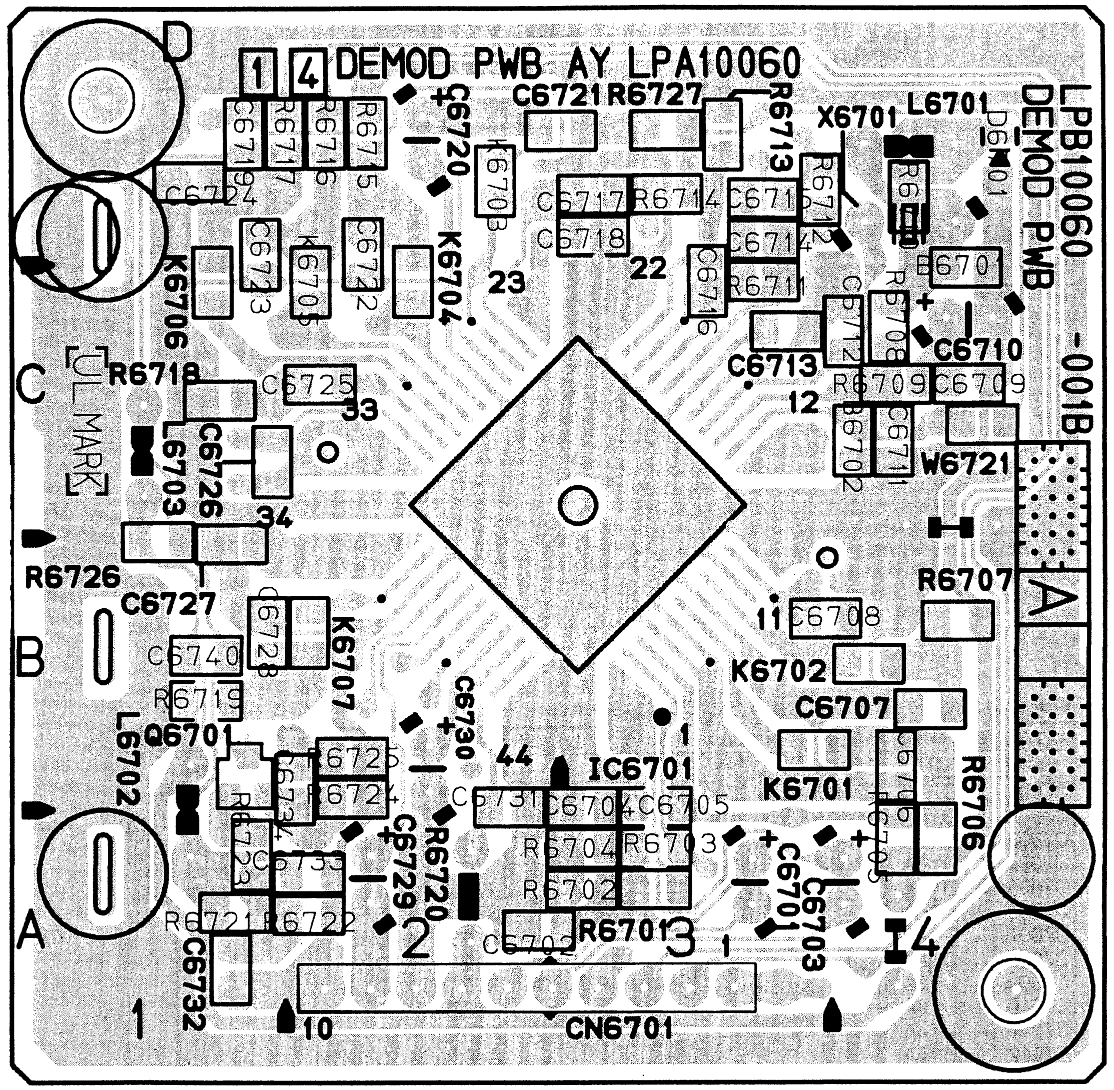
9
10
11
12
13
14
IC3961
J3961
LANC
D3961
D3962
D3963
C3961
R3962
D3965
D3964
IC3962
J7101
AV1 IN/OUT
J7107
A.IN(L)
J7105
A.OUT(L)
J7109
J.LIP
J7110
R.PAUSE
J7108
A.IN(R)
J7106
A.OUT(R)
J7102
AV2 IN/OUT
S IN
J7103
S OUT
J7104
UL MARK
S7101
IC7101
IC7102
IC7103
IC7104
CN7101
CN7102
CN7103
0 6
LPA10071
TERMINAL PWB ASS'Y
TERMINAL PWB
LPB10071 -001B

COMPONENT PARTS LOCATION GUIDE <TERMINAL>

REF.NO.	LOCATION		
CAPACITOR			
C3961	B	C	2E
C7101	B	C	3D
C7102	B	C	3D
C7103	B	C	3C
C7104	B	C	3C
C7105	B	C	2D
C7106	B	C	3D
C7107	B	C	2C
C7108	B	C	2B
C7109	B	C	5E
C7110	B	C	6E
C7111	B	C	5C
C7112	B	C	5C
C7113	B	C	5D
C7114	B	C	5D
C7115	B	C	6D
C7116	B	C	6D
C7117	A	D	7C
C7118	B	C	10D
C7119	A	D	10D
C7120	B	C	10E
C7121	B	C	10D
C7122	B	C	6C
C7123	B	C	6C
C7124	B	C	5B
C7125	B	C	5B
C7126	B	C	5B
C7127	B	C	5B
C7128	B	C	6C
C7129	B	C	6C
C7130	A	D	8E
C7131	A	D	10E
C7132	B	C	11E
C7133	A	D	11D
C7134	B	C	10E
C7135	A	D	11E
C7136	B	C	9A
C7137	B	C	8A
C7138	B	C	9B
C7139	B	C	9B
C7140	B	C	9B
C7141	B	C	9C
C7142	B	C	10B
C7143	B	C	9B
C7144	B	C	9B
C7145	A	D	10B
C7146	B	C	14C
C7147	B	C	14B
C7148	A	D	14B
C7149	A	D	13B
C7150	B	C	13A
C7151	A	D	5A
C7152	A	D	5A
CONNECTOR			
CN7101	A	D	2A
CN7102	A	D	9A
CN7103	A	D	12A
DIODE			
D3961	A	D	3E
D3962	B	C	3E
D3963	B	C	2E
D3964	B	C	3E
D3965	A	D	3E
IC			
IC3961	B	C	2E
IC7101	A	D	9B
IC7102	B	C	14C
IC7103	B	C	9D
IC7104	B	C	11E
JACK			
J3961	A	D	1E
J7101	A	D	6D
J7102	A	D	6B
J7103	A	D	12D
J7104	A	D	13D
J7105	A	D	3D
J7106	A	D	3C
J7107	A	D	2D
J7108	A	D	2C
J7109	A	D	1D
J7110	A	D	1C
COIL			
L7102	A	D	3B
L7103	A	D	2D
L7104	A	D	2B
L7105	A	D	3D
L7106	A	D	6E
L7107	A	D	5E
L7108	A	D	6E
L7109	A	D	5C
L7110	A	D	6C
L7111	A	D	10D
L7112	A	D	6C
L7113	A	D	5C
L7114	A	D	6C
L7115	A	D	5B
L7116	A	D	6B
L7117	A	D	11D
L7118	A	D	9A
L7119	A	D	9B
L7120	A	D	10B
L7121	A	D	10B
L7122	A	D	11C
L7123	A	D	13A
TRANSISTOR			
Q7101	B	C	9D
Q7102	B	C	9E
Q7103	B	C	9E
Q7104	B	C	10E
Q7105	B	C	9E
Q7106	B	C	10B
Q7107	B	C	13B
Q7108	B	C	13B
RESISTOR			
R3961	B	C	3E
R3962	B	C	3E
R7101	B	C	2C
R7103	B	C	3C
R7104	B	C	3D
R7105	B	C	2B
R7106	B	C	8D
R7107	B	C	7D
R7108	B	C	8D
R7109	B	C	9E
R7110	B	C	9E
R7111	B	C	9E
R7112	B	C	9E
R7113	B	C	10E
R7114	B	C	9E
R7115	B	C	10D
R7116	B	C	9D
R7117	B	C	9D
R7118	B	C	7C
R7119	B	C	8B
R7120	B	C	7C
R7122	B	C	10E
R7123	B	C	10D
R7124	B	C	11D
R7125	B	C	11D
R7126	B	C	11D
R7127	B	C	10B
R7128	B	C	9B
R7129	B	C	9B
R7130	B	C	9A
R7131	B	C	10B
R7132	B	C	9C
R7133	B	C	10B
R7134	B	C	11B
R7135	B	C	11B
R7136	B	C	11B
R7137	B	C	11B
R7138	B	C	12D
R7139	B	C	12D
R7140	B	C	13D
R7141	B	C	13D
R7142	B	C	13A
R7143	B	C	13A
R7144	B	C	13B
R7145	B	C	14B
R7146	B	C	14B
R7147	B	C	13B
R7148	B	C	13B
R7149	B	C	14B
R7150	B	C	13B
R7151	B	C	13B
R7152	B	C	6A
R7153	B	C	6B
R7154	B	C	5A
R7155	B	C	5B
R7156	B	C	14B
R7157	A	D	14A
OTHER			
S7101	A	D	9C

4.30 DEMODULATOR CIRCUIT BOARD


1 4 DEMOD PWB AY LPA10060
LPB10060 -001B
DEMOD PWB
A
B
C
D
1
2
3
4
UL MARK
IC6701
CN6701
X6701
L6701
L6702
L6703
D6701
Q6701
W6721
K6701
K6702
K6703
K6704
K6705
K6706
K6707
C6701
C6702
C6703
C6704
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C6708
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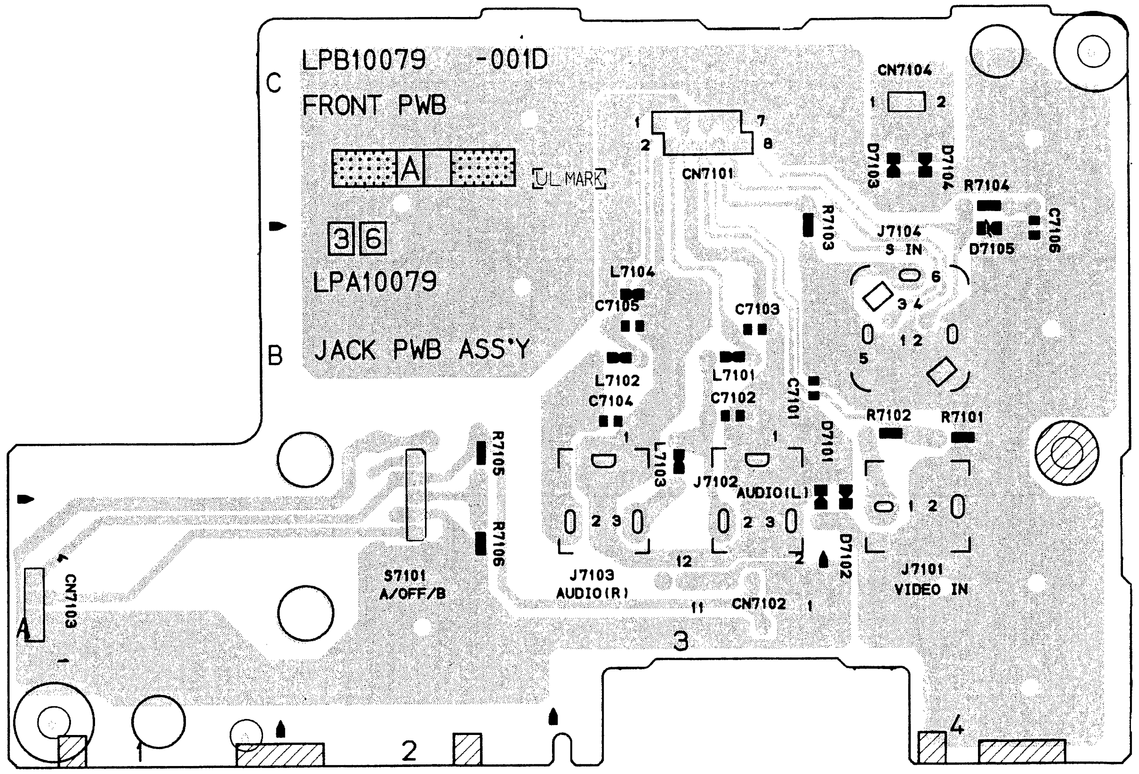
R6716
R6717
R6718
R6719
R6720
R6721
R6722
R6723
R6724
R6725
R6726
R6727
11
12
22
23
33
34
44
10

COMPONENT PARTS LOCATION GUIDE <DEMODULATOR>

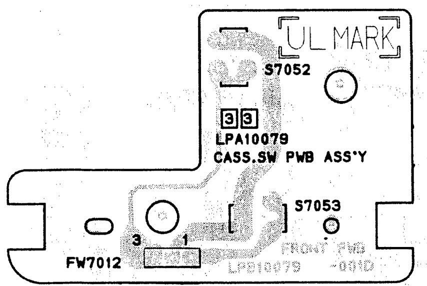
REF.NO.	LOCATION		
CAPACITOR			
C6701	A	D	3A
C6702	B	C	2A
C6703	A	D	4A
C6704	B	C	3B
C6705	B	C	3B
C6706	B	C	4B
C6707	B	C	4B
C6708	B	C	3B
C6709	B	C	4C
C6710	A	D	4C
C6711	B	C	4C
C6712	B	C	4C
C6713	B	C	3C
C6714	B	C	3D
C6715	B	C	3D
C6716	B	C	3C
C6717	B	C	3D
C6718	B	C	3D
C6719	B	C	1D
C6720	A	D	2D
C6721	B	C	3D
C6722	B	C	2D
C6723	B	C	1D
C6724	B	C	1D
C6725	B	C	2C
C6726	B	C	1C
C6727	B	C	1B
C6728	B	C	1B
C6729	A	D	2A
C6730	A	D	2B
C6731	B	C	2B
C6732	B	C	1A
C6733	B	C	2A
C6734	B	C	2B
CONNECTOR			
CN6701	A	D	3A
DIODE			
D6701	B	C	4D
IC			
IC6701	B	C	3C
COIL			
L6701	A	D	4D
L6702	A	D	1A
L6703	A	D	1C
TRANSISTOR			
Q6701	B	C	1B
RESISTOR			
R6701	B	C	3A
R6702	B	C	3A
R6703	B	C	3A
R6704	B	C	3A
R6705	B	C	4A
R6706	B	C	4A
R6707	B	C	4B
R6708	B	C	4C
R6709	B	C	4C
R6710	B	C	4D
R6711	B	C	3C
R6712	B	C	3D
R6713	B	C	3D
R6714	B	C	3D
R6715	B	C	2D
R6716	B	C	2D
R6717	B	C	2D
R6718	B	C	1C
R6719	B	C	1B
R6720	A	D	2A
R6721	B	C	1A
R6722	B	C	2A
R6723	B	C	1A
R6724	B	C	2B
R6725	B	C	2B
R6726	B	C	1B
R6727	B	C	3D
OTHER			
K6701	B	C	3B
K6702	B	C	4B
K6703	B	C	2D
K6704	B	C	2C
K6705	B	C	2C
K6706	B	C	1C
K6707	B	C	2B
X6701	A	D	4D

4.31 DISPLAY, REC SAFETY, CASS. SW AND JACK CIRCUIT BOARDS

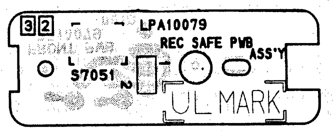
— JACK —


LPB10079 -001D
FRONT PWB
A
UL MARK
36
LPA10079
JACK PWB ASS'Y
C
B
A
1
2
3
4
CN7104
CN7101
D7103
D7104
R7104
R7103
C7106
J7104
S IN
D7105
L7104
C7105
C7103
L7102
C7104
L7101
C7102
C7101
D7101
R7102
R7101
R7105
R7106
L7103
J7102
AUDIO(L)
D7102
S7101
A/OFF/B
J7103
AUDIO(R)
CN7102
J7101
VIDEO IN
CN7103

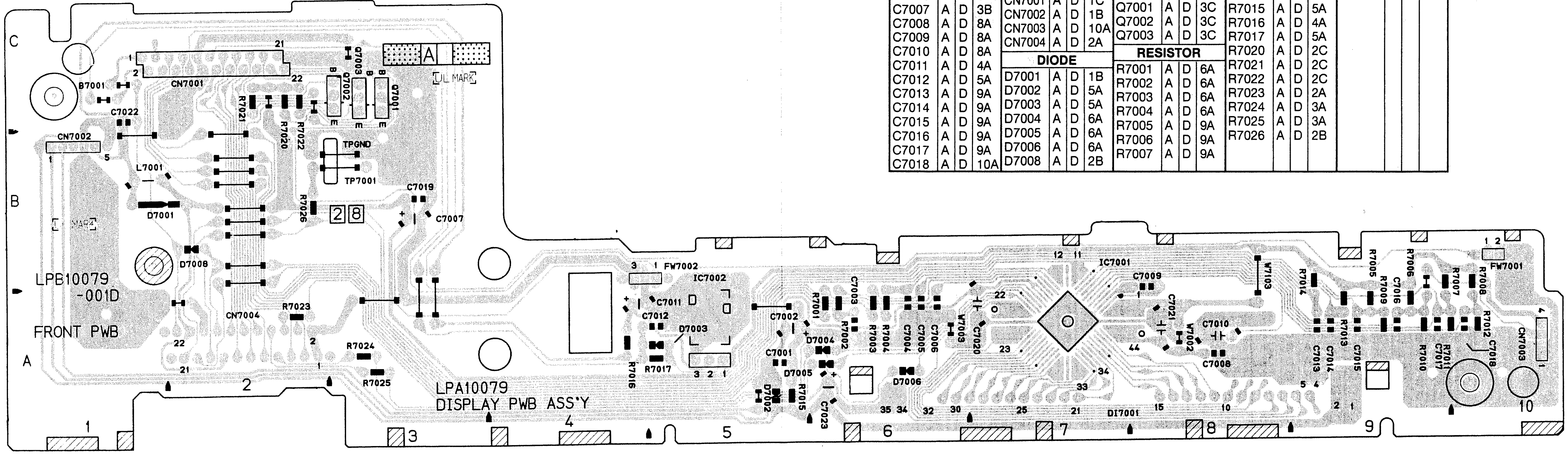
— CASS. SW —


UL MARK
S7052
33
LPA10079
CASS.SW PWB ASS'Y
S7053
FW7012
FRONT PWB
LPB10079 -001D

— REC SAFETY —


32
LPA10079
REC SAFE PWB ASS'Y
S7051
UL MARK

— DISPLAY —


C
B
A
A
UL MARK
B7001
CN7001
C7022
CN7002
L7001
D7001
D7008
Q7003
Q7002
Q7001
R7021
R7020
R7022
TPGND
TP7001
R7026
28
C7019
C7007
LPB10079
-001D
FRONT PWB
CN7004
R7023
R7024
R7025
LPA10079
DISPLAY PWB ASS'Y
FW7002
IC7002
C7011
C7012
D7003
R7016
R7017
C7002
R7001
R7002
R7003
C7003
R7004
C7004
C7005
C7006
C7001
D7004
D7005
D7002
R7015
C7023
D7006
W7003
C7020
IC7001
C7009
C7021
W7002
C7010
C7008
DI7001
W7103
R7014
R7005
R7006
R7009
C7016
R7007
R7008
FW7001
R7013
C7013
C7014
C7015
R7010
R7011
C7017
R7012
C7018
CN7003
1
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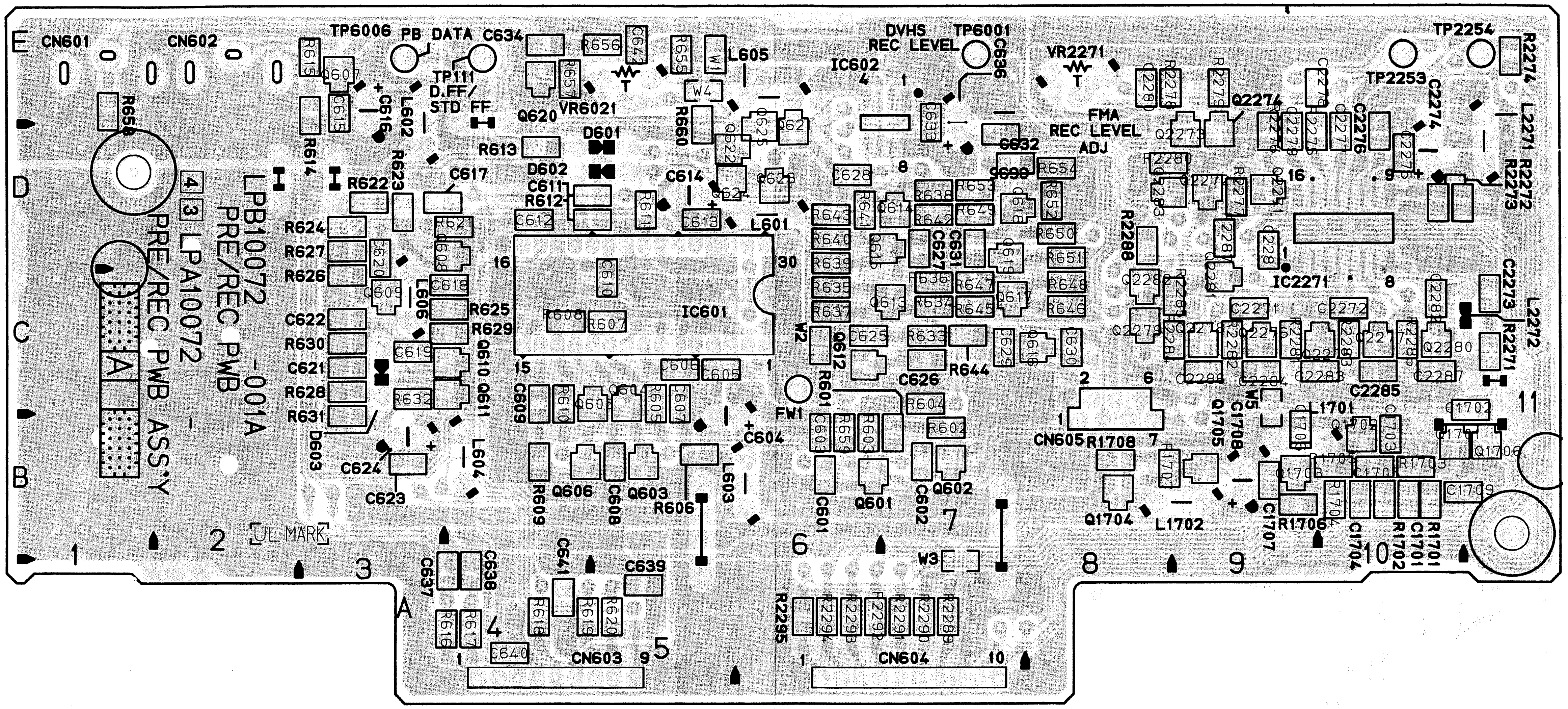
COMPONENT PARTS LOCATION GUIDE <DISPLAY>

REF.NO.	LOCATION		
CAPACITOR			
C7001	A	D	5A
C7002	A	D	5A
C7003	A	D	6A
C7004	A	D	6A
C7005	A	D	6A
C7006	A	D	6A
C7007	A	D	3B
C7008	A	D	8A
C7009	A	D	8A
C7010	A	D	8A
C7011	A	D	4A
C7012	A	D	5A
C7013	A	D	9A
C7014	A	D	9A
C7015	A	D	9A
C7016	A	D	9A
C7017	A	D	9A
C7018	A	D	10A
C7019	A	D	3B
C7020	A	D	7A
C7021	A	D	8A
C7022	A	D	1C
C7023	A	D	6A
CONNECTOR			
CN7001	A	D	1C
CN7002	A	D	1B
CN7003	A	D	10A
CN7004	A	D	2A
DIODE			
D7001	A	D	1B
D7002	A	D	5A
D7003	A	D	5A
D7004	A	D	6A
D7005	A	D	6A
D7006	A	D	6A
D7008	A	D	2B
IC			
IC7001	B	C	7A
IC7002	A	D	5A
COIL			
L7001	A	D	1B
TRANSISTOR			
Q7001	A	D	3C
Q7002	A	D	3C
Q7003	A	D	3C
RESISTOR			
R7001	A	D	6A
R7002	A	D	6A
R7003	A	D	6A
R7004	A	D	6A
R7005	A	D	9A
R7006	A	D	9A
R7007	A	D	9A
R7008	A	D	10A
R7009	A	D	9A
R7010	A	D	9A
R7011	A	D	10A
R7012	A	D	10A
R7013	A	D	9A
R7014	A	D	9B
R7015	A	D	5A
R7016	A	D	4A
R7017	A	D	5A
R7020	A	D	2C
R7021	A	D	2C
R7022	A	D	2C
R7023	A	D	2A
R7024	A	D	3A
R7025	A	D	3A
R7026	A	D	2B
OTHER			
DI7001	A	D	7A
FW7001	A	D	10B
FW7002	A	D	5B
TP7001	A	D	3B
TPGND	A	D	2B

4.32 PRE/REC CIRCUIT BOARD

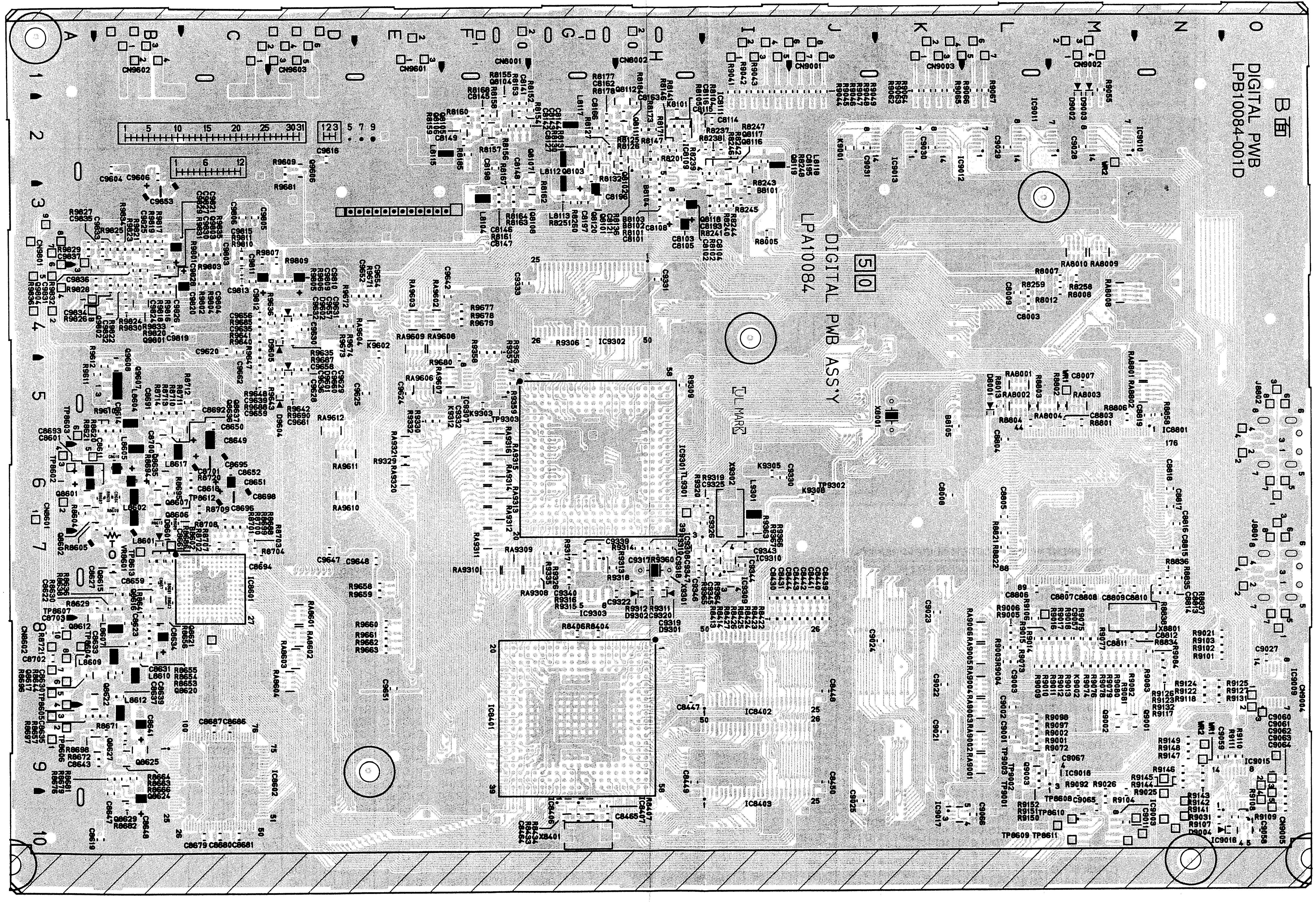


COMPONENT PARTS LOCATION GUIDE <PRE/REC>

REF.NO.	LOCATION		
CAPACITOR			
C601	B	C	6B
C602	B	C	7B
C603	B	C	6B
C604	A	D	6B
C605	B	C	5C
C606	B	C	5C
C607	B	C	5C
C608	B	C	5B
C609	B	C	4C
C610	B	C	5C
C611	B	C	5D
C612	B	C	4D
C613	B	C	5D
C614	A	D	5D
C615	B	C	3E
C616	A	D	3E
C617	B	C	3D
C618	B	C	4C
C619	B	C	3C
C620	B	C	3D
C621	B	C	3C
C622	B	C	3C
C623	B	C	3B
C624	A	D	3B
C625	B	C	6C
C626	B	C	7C
C627	B	C	7D
C628	B	C	6D
C629	B	C	7C
C630	B	C	8C
C631	B	C	7D
C632	B	C	7D
C633	B	C	7E
C634	B	C	4E
C635	B	C	7D
C636	A	D	7D
C637	B	C	4A
C638	B	C	4A
C639	B	C	5A
C640	B	C	4A
C641	B	C	4A
C642	B	C	5E
C1701	B	C	10B
C1702	B	C	11C
C1703	B	C	10B
C1704	B	C	10B
C1705	B	C	10B
C1706	B	C	9B
C1707	B	C	9B
C1708	A	D	9B
C1709	B	C	11B
C2271	B	C	9C
C2272	B	C	10C
C2273	B	C	11C
C2274	A	D	10D
C2275	B	C	10D
C2276	B	C	10D
C2277	B	C	10D
C2278	B	C	10E
C2279	B	C	9D
C2280	B	C	8E
C2281	B	C	9D
C2282	B	C	10C
C2283	B	C	10C
C2284	B	C	9C
C2285	B	C	10C
C2286	B	C	9C
C2287	B	C	10C
CONNECTOR			
CN601	A	D	1E
CN602	A	D	2E
CN603	A	D	4A
CN604	A	D	6A
CN605	A	D	8B
DIODE			
D601	A	D	4D
D602	A	D	5D
D603	A	D	3C
IC			
IC601	A	D	6C
IC602	B	C	7E
IC2271	B	C	10D
COIL			
L601	A	D	6D
L602	A	D	3E
L603	A	D	6B
L604	A	D	4B
L605	A	D	6E
L606	A	D	3C
L1701	A	D	9B
L1702	A	D	8B
L2271	A	D	11D
L2272	A	D	11C
TRANSISTOR			
Q601	B	C	6B
Q602	B	C	7B
Q603	B	C	5B
Q604	B	C	5C
Q605	B	C	5C
Q606	B	C	4B
Q607	B	C	3E
Q608	B	C	4D
Q609	B	C	3C
Q610	B	C	4C
Q611	B	C	4C
Q612	B	C	6C
Q613	B	C	7C
Q614	B	C	7D
Q615	B	C	7D
Q616	B	C	8C
Q617	B	C	7C
Q618	B	C	7D
Q619	B	C	7D
Q620	B	C	4E
Q621	B	C	6D
Q622	B	C	5D
Q623	B	C	6D
Q624	B	C	5D
Q625	B	C	6D
Q1701	B	C	10B
Q1702	B	C	10B
Q1703	B	C	9B
Q1704	B	C	8B
Q1705	B	C	9B
Q1706	B	C	11B
Q2271	B	C	9D
Q2272	B	C	9D
Q2273	B	C	9D
Q2274	B	C	9D
Q2275	B	C	10C
Q2276	B	C	9C
Q2277	B	C	10C
Q2278	B	C	9C
Q2279	B	C	8C
Q2280	B	C	10C
Q2281	B	C	9C
Q2282	B	C	8C
Q2283	B	C	8D
RESISTOR			
R601	B	C	7B
R602	B	C	7B
R603	B	C	6B
R604	B	C	7C
R605	B	C	5C
R606	B	C	5B
R607	B	C	5C
R608	B	C	4C
R609	B	C	4B
R610	B	C	4C
R611	B	C	5D
R612	B	C	5D
R613	B	C	4D
R614	B	C	3E
R615	B	C	3E
R616	B	C	4A
R617	B	C	4A
R618	B	C	4A
R619	B	C	4A
R620	B	C	5A
R621	B	C	4D
R622	B	C	3D
R623	B	C	3D
R624	B	C	3D
R625	B	C	4C
R626	B	C	3C
R627	B	C	3D
R628	B	C	3C
R629	B	C	4C
R630	B	C	3C
R631	B	C	3B
R632	B	C	3C
R633	B	C	7C
R634	B	C	7C
R635	B	C	6C
R636	B	C	7C
R637	B	C	6C
R638	B	C	7D
R639	B	C	6D
R640	B	C	6D
R641	B	C	6D
R642	B	C	7D
R643	B	C	6D
R644	B	C	7C
R645	B	C	7C
R646	B	C	8C
R647	B	C	7C
R648	B	C	8C
R649	B	C	7D
R650	B	C	8D
R651	B	C	8D
R652	B	C	8D
R653	B	C	7D
R654	B	C	8D
R655	B	C	5E
R656	B	C	5E
R657	B	C	4E
R658	B	C	1E
R659	B	C	6B
R660	B	C	5D
R1701	B	C	10B
R1702	B	C	10B
R1703	B	C	10B
R1704	B	C	10B
R1705	B	C	10B
R1706	B	C	9B
R1707	B	C	8B
R1708	B	C	8B
R2271	B	C	11C
R2272	B	C	11D
R2273	B	C	10D
R2274	B	C	11E
R2275	B	C	10D
R2276	B	C	9D
R2277	B	C	9D
R2278	B	C	9E
R2279	B	C	9E
R2280	B	C	8D
R2281	B	C	9C
R2282	B	C	9C
R2283	B	C	10C
R2284	B	C	9C
R2285	B	C	9C
R2286	B	C	10C
R2287	B	C	9D
R2288	B	C	8D
R2289	B	C	7A
R2290	B	C	7A
R2291	B	C	7A
R2292	B	C	6A
R2293	B	C	6A
R2294	B	C	6A
R2295	B	C	6A
VR2271	A	D	8E
VR6021	A	D	5E
TEST POINT			
TP111	A	D	4E
TP2253	A	D	10E
TP2254	A	D	11E
TP6001	A	D	7E
TP6006	A	D	3E
OTHER			
FW1	A	D	6C

4.33 DIGITAL CIRCUIT BOARD

— FOIL SIDE (B) —



DIGITAL PWB
LPB10084-001D
DIGITAL PWB ASS'Y
LPA10084
IC9301
IC8401
IC8601
IC8402
IC8403
IC9302

COMPONENT PARTS LOCATION GUIDE <DIGITAL>

REF.NO.	LOCATION		
CAPACITOR			
C8001	A	C	5K
C8002	A	C	5K
C8003	B	C	4L
C8004	A	C	6M
C8005	A	C	5K
C8006	A	C	4M
C8007	B	C	5M
C8008	B	C	6K
C8009	B	C	4L
C8010	A	C	4M
C8101	B	C	3H
C8102	B	C	3H
C8103	B	C	3H
C8104	B	C	3H
C8105	B	C	3H
C8106	A	C	2I
C8107	A	C	3I
C8108	B	C	3H
C8109	A	C	2H
C8110	A	C	2I
C8111	A	C	3H
C8112	A	C	3H
C8113	A	C	3H
C8114	B	C	2I
C8115	B	C	2H
C8116	B	C	2H
C8121	B	C	2H
C8123	A	C	3G
C8124	A	C	3G
C8127	B	C	2G
C8129	A	C	2G
C8130	A	C	3G
C8131	A	C	3G
C8141	B	C	2F
C8142	B	C	2F
C8143	B	C	2F
C8144	B	C	2F
C8145	B	C	2F
C8146	B	C	3F
C8147	B	C	3F
C8148	B	C	3F
C8149	B	C	2F
C8150	A	C	2F
C8151	A	C	2F
C8152	A	C	2F
C8162	B	C	2G
C8163	B	C	2H
C8164	A	C	2G
C8166	B	C	2G
C8167	A	C	2G
C8191	A	C	2F
C8192	A	C	2H
C8193	B	C	3I
C8194	A	C	2I
C8195	B	C	2I
C8196	B	C	3G
C8197	B	C	3G
C8198	B	C	2F
C8199	A	C	3F
C8401	A	C	9G
C8402	A	C	9G
C8403	A	C	10G
C8404	A	C	8G
C8405	A	C	8G
C8406	A	C	8G
C8407	A	C	8G
C8408	A	C	9G
C8409	A	C	9G
C8410	A	C	9G
C8411	A	C	9G
C8412	A	C	9G
C8413	A	C	9G
C8414	A	C	9G
C8415	A	C	9G
C8416	A	C	9G
C8417	A	C	9G
C8418	A	C	9G
C8419	A	C	9G
C8422	A	C	8G
C8423	A	C	8G
C8424	A	C	9G
C8425	A	C	9G
C8426	A	C	8G
C8427	A	C	8F
C8428	A	C	9F
C8429	A	C	10I
C8430	B	C	7I
C8431	B	C	7I
C8432	A	C	7I
C8433	A	C	7I
C8434	A	C	7I
C8435	A	C	7J
C8436	A	C	7J
C8437	A	C	7J
C8438	A	C	7J
C8439	B	C	7J
C8440	B	C	7J
C8441	B	C	7J
C8442	B	C	7J
C8443	B	C	7J
C8444	B	C	7I
C8445	A	C	7J
C8446	A	C	7I
C8447	B	C	8H
C8448	B	C	8J
C8449	B	C	9H
C8450	B	C	9J
C8451	A	C	8H
C8452	A	C	8J
C8453	A	C	9H
C8454	A	C	9J
C8455	A	C	10G
C8456	A	C	10G
C8457	A	C	10J
C8458	A	C	10J
C8459	A	C	10F
C8460	A	C	10F
C8461	A	C	8G
C8462	A	C	8G
C8463	A	C	10G
C8464	B	C	10G
C8465	B	C	10G
C8601	B	C	6A
C8602	A	C	6B
C8603	A	C	6B
C8604	B	C	6B
C8605	A	C	6B
C8606	A	C	6B
C8607	A	C	6B
C8608	B	C	6B
C8609	A	C	5B
C8610	B	C	6B
C8611	B	C	6B
C8612	A	C	5B
C8613	A	C	5B
C8614	B	C	5B
C8615	A	C	5B
C8616	A	C	6B
C8617	A	C	5B
C8618	B	C	6C
C8619	B	C	10B
C8620	A	C	10B
C8621	A	C	7A
C8622	B	C	7B
C8623	B	C	8B
C8624	A	C	8B
C8625	A	C	7B
C8626	A	C	7A
C8627	B	C	7B
C8628	A	C	8B
C8629	A	C	8B
C8630	B	C	8B
C8631	B	C	8B
C8632	A	C	8B
C8633	B	C	8B
C8634	B	C	8B
C8635	B	C	9B
C8636	A	C	8B
C8637	B	C	8B
C8638	A	C	8B
C8639	B	C	8B
C8640	A	C	9B
C8641	B	C	9B
C8642	A	C	9B
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C8645	A	C	9B
C8646	A	C	10A
C8647	B	C	10B
C8648	B	C	10B
C8649	B	C	5C
C8650	B	C	5C
C8651	B	C	6C
C8652	B	C	6C
C8653	A	C	7C
C8654	A	C	7C
C8655	A	C	7C
C8656	A	C	7C
C8657	B	C	7B
C8658	A	C	7B
C8659	B	C	7B
C8660	A	C	7B
C8661	B	C	7B
C8662	A	C	7C
C8663	A	C	7C
C8664	A	C	7C
C8665	A	C	7C
C8666	A	C	7C
C8667	A	C	8C
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C8669	A	C	7C
C8670	A	C	7C
C8671	A	C	7C
C8672	A	C	7C
C8673	A	C	7C
C8674	A	C	8C
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C8676	A	C	9C
C8677	A	C	10C
C8678	A	C	10C
C8679	B	C	10C
C8680	B	C	10C
C8681	B	C	10C
C8682	A	C	10C
C8683	A	C	10C
C8684	A	C	9C
C8685	A	C	9C
C8686	B	C	9C
C8687	B	C	9C
C8688	A	C	9C
C8689	A	C	6C
C8690	A	C	6B
C8691	B	C	5B
C8692	B	C	5C
C8693	B	C	6A
C8694	B	C	7C
C8696	B	C	6C
C8697	B	C	6B
C8698	A	D	6C
C8699	A	C	6C
C8700	B	C	6B
C8701	B	C	6C
C8702	B	C	8A
C8703	B	C	8A
C8801	A	C	5N
C8802	A	C	6N
C8803	B	C	5M
C8804	B	C	6L
C8805	B	C	6L
C8806	B	C	7L
C8807	B	C	7M
C8808	B	C	7M
C8809	B	C	7M
C8810	B	C	7M
C8811	B	C	8M
C8812	B	C	8N
C8813	B	C	7N
C8814	B	C	7N
C8815	B	C	7N
C8816	B	C	7N
C8817	B	C	6N
C8818	B	C	6N
C8819	B	C	5N
C8820	A	C	7N
C8821	A	C	7N
C8822	A	C	7N
C8823	A	C	6N
C8824	A	C	6M
C8825	A	C	6M
C8826	A	C	6N
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C9002	B	C	9L
C9003	B	C	8L
C9004	A	C	9O
C9005	A	C	9O
C9006	A	C	7L
C9007	A	C	7M
C9008	A	C	7M
C9009	A	C	7M
C9010	A	C	7N
C9011	B	C	10M
C9012	A	C	8N
C9013	A	C	9N
C9014	A	C	9N
C9015	A	C	9N
C9016	A	C	9N
C9017	A	C	10N
C9018	A	C	10M
C9019	A	C	10M
C9020	A	C	10L
C9021	B	C	9K
C9022	B	C	8K
C9023	B	C	8K
C9024	B	C	8K
C9025	B	C	10J
C9026	A	C	10K
C9027	B	C	8O
C9028	B	C	2M
C9029	B	C	2L
C9030	B	C	2K
C9031	B	C	2J
C9032	A	C	2I
C9033	A	C	2I
C9034	A	C	2I
C9035	A	C	2I
C9036	A	C	2I
C9037	A	C	2J
C9038	A	C	2J
C9039	A	C	2J
C9040	A	C	2J
C9041	A	C	2M
C9042	A	C	2M
C9043	A	C	2M
C9044	A	C	2K
C9045	A	C	2K
C9046	A	C	2K
C9047	A	C	2K
C9048	A	C	2L
C9049	A	C	2L
C9050	A	C	8O
C9051	A	C	8O
C9054	A	C	7L
C9055	A	C	10L
C9057	B	C	8M
C9058	B	C	10O
C9059	B	C	9N
C9060	B	C	9O
C9061	B	C	10O
C9062	B	C	10O
C9063	B	C	10O
C9064	B	C	10O
C9065	B	C	10M
C9066	B	C	10L
C9067	B	C	9M
C9301	A	C	5G
C9302	A	C	5G
C9303	A	C	5G
C9304	A	C	5G
C9305	A	C	5G
C9306	A	C	7G
C9307	A	C	6G
C9308	A	C	6G
C9309	A	C	6H
C9310	A	C	7H
C9311	A	C	6H
C9312	A	C	5H
C9313	A	C	5H
C9314	A	C	5G
C9316	A	C	7G
C9317	B	C	7H
C9318	B	C	7H
C9319	B	C	7H
C9320	B	C	7H
C9322	B	C	7G
C9324	A	C	6H
C9325	B	C	6I
C9326	B	C	6H
C9327	A	C	6I
C9328	A	C	4G
C9329	A	C	6H
C9330	B	C	6I
C9331	B	C	4H
C9332	B	C	5F
C9333	B	C	4F
C9334	A	C	5G
C9335	A	C	5G
C9336	A	C	5F
C9337	A	C	5G
C9338	A	C	6H
C9339	B	C	7G
C9340	B	C	7G
C9341	A	C	6I
C9342	A	C	6I
C9343	B	C	7I
C9344	B	C	7I
C9345	B	C	7I
C9346	B	C	7H
C9347	B	C	7H
C9348	A	C	7I
C9601	A	C	2E
C9602	A	C	2E
C9603	A	C	2B
C9604	B	C	2B
C9605	A	C	2B
C9606	B	C	2B
C9607	A	C	2C
C9608	A	C	2C
C9609	A	C	2C
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C9611	A	C	2D
C9612	A	C	2C
C9613	A	C	2D
C9614	A	C	2D
C9615	A	C	2D
C9616	B	C	2D
C9617	A	C	6D
C9618	A	C	6D
C9619	A	C	4C
C9620	B	C	4C
C9621	A	C	3D
C9623	A	C	5F
C9624	B	C	5E
C9625	B	C	5E
C9626	A	C	4D
C9627	A	C	4D
C9628	B	C	5D
C9629	B	C	5D
C9630	B	C	4D
C9631	B	C	4D
C9632	B	C	4D
C9633	A	C	4C
C9634	A	C	4C
C9635	B	C	4C
C9636	B	C	5D
C9637	A	C	5C
C9638	A	C	5C
C9639	B	C	5C
C9640	A	C	3D
C9641	A	C	4E
C9642	B	C	4F
C9643	A	C	4F
C9644	A	C	9D
C9645	A	C	8C
C9646	A	C	7C
C9647	B	C	7D
C9648	B	C	7E
C9649	A	C	7F
C9650	A	C	8F
C9651	B	C	8E
C9652	B	C	4E
C9653	A	D	3B
C9654	B	C	4E
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C9656	B	C	4C
C9657	B	C	4D
C9658	B	C	4D
C9659	B	C	5C
C9660	B	C	5D
C9661	B	C	5D
C9662	B	C	4C
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C9803	B	C	3C
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C9806	B	C	3C
C9807	A	C	3C
C9808	A	C	3C
C9809	B	C	4D
C9810	B	C	4D
C9811	B	C	4C
C9812	B	C	4C
C9813	B	C	4C
C9814	A	C	3D
C9815	B	C	3C
C9816	A	C	4B
C9817	A	C	4B
C9818	A	C	4B
C9819	B	C	4B
C9820	B	C	4C
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C9832	B	C	4B
C9833	B	C	3B
C9834	B	C	4B
C9835	B	C	3B
C9836	B	C	4B
C9837	B	C	3A
CONNECTOR			
CN8001	A	D	1F
CN8002	A	D	1H
CN8601	A	C	6A
CN8602	A	C	9A
CN9001	A	C	1I
CN9002	A	C	1M
CN9003	A	C	1K
CN9004	A	C	8O
CN9005	A	C	9O
CN9601	A	C	1E
CN9602	A	C	1B
CN9603	A	C	1C
CN9801	A	C	4A
DIODE			
D8001	B	C	5L
D8601	B	C	7B
D8602	A	C	6C
D9001	A	C	9O
D9002	B	C	1M
D9003	B	C	1M
D9004	B	C	10N
D9301	B	C	7H
D9302	B	C	7H
D9303	A	C	6I
D9601	B	C	5D
D9602	B	C	4D
D9603	A	C	10F
D9604	B	C	5D
D9605	B	C	4D
IC			
IC8001	A	C	5L
IC8002	A	C	6L
IC8101	A	C	3I
IC8102	A	C	3G
IC8109	B	C	2H
IC8110	A	C	2F
IC8111	B	C	2H
IC8401	B	C	9G
IC8402	B	C	8I
IC8403	B	C	9I
IC8404	A	C	8I
IC8405	A	C	9I
IC8406	B	C	10G
IC8407	B	C	10G
IC8601	B	C	7C
IC8602	B	C	9C
IC8801	B	C	6M
IC8802	A	C	6N
IC9001	A	C	9M
IC9002	A	C	9O
IC9003	B	C	10M
IC9004	A	C	9K
IC9005	A	C	8K
IC9006	A	C	8K
IC9007	A	C	8K
IC9008	A	C	10K
IC9009	B	C	8O
IC9010	B	C	2M
IC9011	B	C	2L
IC9012	B	C	2K
IC9013	B	C	2K
IC9014	A	C	10K
IC9015	B	C	10O
IC9016	B	C	10O
IC9017	B	C	10K
IC9018	B	C	9M
IC9301	B	C	6G
IC9302	B	C	4G
IC9303	B	C	7G
IC9304	A	C	6I
IC9305	A	C	6J
IC9307	B	C	5F
IC9308	B	C	7H
IC9309	B	C	7I
IC9310	B	C	7I
IC9601	A	C	4E
IC9602	A	C	4C
IC9603	A	C	8D
IC9801	A	C	3C
IC9802	A	C	3B
IC9803	A	C	3B
JACK			
J8801	A	D	7O
J8802	A	D	6O
COIL			
L8101	A	C	2F
L8102	A	C	2F
L8103	A	C	2G
L8104	B	C	3F
L8105	A	C	2G
L8106	A	C	2F
L8111	A	C	3H
L8112	B	C	2G
L8113	B	C	3G
L8115	B	C	2F
L8116	A	C	2F
L8117	B	C	2G
L8118	B	C	2I
L8401	A	C	10G
L8601	B	C	6B
L8602	B	C	6B
L8603	A	C	5B
L8604	B	C	5B
L8605	B	C	6B
L8606	A	C	10B
L8607	B	C	8B
L8608	A	C	8B
L8609	B	C	8B
L8610	B	C	8B
L8611	A	C	9B
L8612	B	C	9B
L8613	A	C	9B
L8614	A	C	9B
L8615	A	C	5C
L8616	A	C	6C
L8617	B	C	6B
L8802	A	C	5N
L8803	A	C	7O
L8804	A	C	6O
L9301	B	C	6I
L9302	A	C	5G
L9610	A	C	4C
L9801	A	C	3D
L9802	A	C	4B
TRANSISTOR			
Q8101	B	C	2H
Q8102	B	C	2G
Q8103	B	C	2G
Q8104	B	C	2F
Q8105	B	C	2F
Q8106	B	C	2F
Q8107	B	C	3G
Q8108	B	C	3G
Q8109	A	C	2H
Q8110	A	C	2H
Q8111	B	C	2H
Q8112	B	C	2H
Q8115	A	C	2H
Q8116	B	C	3I
Q8117	B	C	2I
Q8118	B	C	3I
Q8119	B	C	2I
Q8120	B	C	3G
Q8121	A	C	3F
Q8401	A	C	9G
Q8402	A	C	9G
Q8601	B	C	6A
Q8602	B	C	6A
Q8603	A	C	6B
Q8604	A	C	6B
Q8605	A	C	7B
Q8606	B	C	6B
Q8607	B	C	6B
Q8608	A	C	6B
Q8609	A	C	6B
Q8610	A	C	6B
Q8611	A	C	6B
Q8612	B	C	8A
Q8613	A	C	7B
Q8614	A	C	7B
Q8615	B	C	7B
Q8616	B	C	7B
Q8617	B	C	8B
Q8618	A	C	8B
Q8619	A	C	8B
Q8620	B	C	8B
Q8621	B	C	7B
Q8622	B	C	8A
Q8623	A	C	9B
Q8624	B	C	9B
Q8625	B	C	9B
Q8626	A	C	7B
Q8627	B	C	9A
Q8628	A	C	10B
Q8629	B	C	10B
Q8630	A	C	10B
Q8631	A	C	7B
Q8632	A	C	6C
Q8633	A	C	7C
Q8634	A	C	7B
Q8635	B	C	6B
Q8636	B	C	5B
Q8637	B	C	5B
Q9001	B	C	9M
Q9002	B	C	9M
Q9003	B	C	9L
Q9601	A	C	10F
Q9602	A	C	10E
Q9603	A	C	10F
Q9604	A	C	10E
Q9605	A	C	3D
Q9606	B	C	2D
Q9607	B	C	5B
Q9608	B	C	5B
Q9609	A	C	4N
Q9610	A	C	3N
Q9611	A	C	2H
Q9612	A	C	2H
Q9613	A	C	5I
Q9614	A	C	5H
Q9615	A	C	5N
Q9616	A	C	5N
Q9617	A	C	6D
Q9618	A	C	5D
Q9619	A	C	5C
Q9620	A	C	5C
Q9801	B	C	4B
Q9802	B	C	4B
Q9803	B	C	3B
Q9804	B	C	3B
RESISTOR			
R8001	A	C	5K
R8002	A	C	5K
R8003	A	C	3L
R8004	A	C	3M
R8005	B	C	3I
R8006	A	C	3M
R8007	B	C	4M
R8008	B	C	4M
R8012	B	C	4L
R8013	B	C	5L
R8101	B	C	3H
R8102	B	C	3H
R8103	A	C	3H
R8104	B	C	2H
R8105	B	C	2H
R8112	A	C	4H
R8113	A	C	4H
R8122	A	C	2H
R8123	A	C	2H
R8125	B	C	2H
R8126	B	C	2H
R8127	B	C	2G
R8128	A	C	2G
R8129	A	C	2G
R8130	B	C	2G
R8131	B	C	2G
R8132	B	C	2G
R8134	A	C	3G
R8135	A	C	3G
R8136	B	C	2H
R8137	A	C	3G
R8141	B	C	2H
R8146	B	C	2H
R8147	B	C	2H
R8148	A	C	3G
R8151	A	C	2F
R8152	B	C	2G
R8153	B	C	2F
R8154	B	C	2F
R8155	B	C	2F
R8156	B	C	2F
R8157	B	C	2F
R8158	B	C	2F
R8159	B	C	2F
R8160	B	C	2F
R8161	B	C	3F
R8162	B	C	3G
R8163	B	C	3F
R8164	B	C	3F
R8165	A	C	3F
R8166	A	C	3F
R8167	B	C	3F
R8168	B	C	2F
R8171	B	C	2H
R8172	A	C	2H
R8173	B	C	2H
R8174	A	C	2H

MC-Service

REF.NO.	LOCATION		
R8175	A	C	2H
R8176	A	C	2H
R8177	B	C	2G
R8178	B	C	2G
R8179	A	C	2H
R8180	A	C	2G
R8181	A	C	2G
R8183	A	C	2H
R8184	B	C	2H
R8185	B	C	2F
R8186	A	C	3G
R8201	B	C	2H
R8231	A	C	2I
R8232	A	C	2I
R8233	A	C	2I
R8234	A	C	2H
R8235	A	C	2H
R8236	A	C	2I
R8237	B	C	2I
R8238	B	C	2I
R8239	B	C	2I
R8240	B	C	3I
R8241	B	C	3I
R8242	B	C	2I
R8243	B	C	3I
R8244	B	C	3I
R8245	B	C	3I
R8246	B	C	2I
R8247	B	C	2I
R8248	B	C	2I
R8249	A	C	2F
R8250	A	C	2F
R8251	B	C	3G
R8252	A	C	3K
R8253	A	C	3K
R8254	A	C	3K
R8255	A	C	3K
R8256	A	C	3K
R8257	A	C	3K
R8258	B	C	4M
R8259	B	C	4L
R8260	B	C	3G
R8261	A	C	3F
R8401	A	C	9G
R8402	A	C	9G
R8403	A	C	9G
R8404	B	C	8G
R8405	A	C	9G
R8406	B	C	8G
R8407	B	C	10G
R8408	A	C	9F
R8409	A	C	8G
R8410	A	C	9F
R8411	A	C	10G
R8412	A	C	10I
R8413	B	C	8I
R8414	B	C	8I
R8415	A	C	8I
R8416	A	C	8I
R8417	A	C	8I
R8418	A	C	8J
R8419	A	C	8J
R8420	A	C	8J
R8421	A	C	8J
R8422	B	C	8J
R8423	B	C	8J
R8424	B	C	8J
R8425	B	C	8J
R8426	B	C	8J
R8427	B	C	8I
R8428	A	C	8J
R8429	A	C	8I
R8430	A	C	8G
R8431	A	C	8F
R8432	A	C	8G
R8433	B	C	10G
R8434	B	C	10G
R8435	A	C	10G
R8436	A	C	9H
R8437	A	C	9G
R8438	A	C	9G
R8601	A	C	6A
R8602	A	C	6A
R8603	A	C	6B
R8604	B	C	6A
R8605	B	C	6A
R8606	A	C	6A
R8607	B	C	6B
R8608	A	C	6B
R8609	B	C	6B
R8610	B	C	6B
R8611	A	C	6B
R8612	A	C	6B
R8613	B	C	6B
R8614	A	C	7B
R8615	A	C	6B
R8616	A	C	6B
R8617	A	C	5B
R8618	A	C	6B
R8619	A	C	6B
R8620	B	C	5B
R8621	B	C	5B
R8622	A	C	6B
R8623	A	C	6B
R8624	A	C	6B

REF.NO.	LOCATION		
R8625	A	C	6C
R8626	A	C	6B
R8627	A	C	6B
R8628	A	C	6B
R8629	B	C	7A
R8630	B	C	7B
R8631	A	C	7B
R8632	A	C	7B
R8633	A	C	7A
R8634	A	C	7A
R8635	A	C	7B
R8636	B	C	7B
R8637	A	C	7A
R8638	B	C	7B
R8639	A	C	7A
R8640	A	C	7B
R8641	B	C	7B
R8642	B	C	7B
R8643	A	C	8B
R8644	B	C	8B
R8645	A	C	8B
R8646	A	C	8B
R8647	A	C	8B
R8648	A	C	8B
R8649	A	C	8B
R8650	A	C	8B
R8651	A	C	8B
R8652	A	C	8B
R8653	B	C	8B
R8654	B	C	8B
R8655	B	C	8B
R8656	B	C	7B
R8657	B	C	9A
R8658	A	C	8B
R8659	A	C	9B
R8660	A	C	9B
R8661	A	C	9B
R8662	A	C	9B
R8663	B	C	9B
R8664	B	C	9B
R8665	A	C	9B
R8666	B	C	9B
R8667	A	C	9B
R8668	A	C	9B
R8669	A	C	8B
R8670	A	C	7B
R8671	B	C	9B
R8672	B	C	9B
R8673	A	C	9A
R8674	A	C	10A
R8675	A	C	10B
R8676	B	C	9B
R8677	A	C	10B
R8678	A	C	10B
R8679	B	C	9B
R8680	A	C	10B
R8681	B	C	9B
R8682	B	C	10B
R8683	A	C	8B
R8684	A	C	7B
R8685	A	C	7C
R8686	B	C	7B
R8687	A	C	7C
R8688	B	C	6C
R8689	B	C	6B
R8690	A	C	7B
R8691	A	C	6B
R8692	A	C	6B
R8693	A	C	6B
R8694	B	C	6B
R8695	B	C	6B
R8696	B	C	8A
R8697	B	C	9A
R8698	B	C	9A
R8699	B	C	6C
R8700	B	C	6C
R8701	B	C	6C
R8702	B	C	7C
R8703	B	C	7C
R8704	B	C	7C
R8705	A	C	7C
R8706	A	C	7C
R8707	B	C	7C
R8708	B	C	6C
R8709	B	C	6C
R8710	B	C	5B
R8711	B	C	5B
R8712	B	C	5C
R8713	B	C	5B
R8714	B	C	5B
R8715	A	C	6C
R8716	A	C	6C
R8717	A	C	6C
R8718	A	C	6C
R8719	B	C	6B
R8720	B	C	6C
R8721	B	C	8A
R8801	B	C	5M
R8802	B	C	5M
R8803	B	C	5L
R8804	B	C	5L
R8806	B	C	5M
R8821	B	C	7L
R8822	B	C	7L
R8823	A	C	7L

REF.NO.	LOCATION		
R8824	A	C	6M
R8825	A	C	7M
R8826	A	C	7M
R8827	A	C	7M
R8828	A	C	7M
R8829	A	C	7M
R8830	A	C	7M
R8831	A	C	7M
R8832	A	C	7M
R8833	A	C	7M
R8834	B	C	8M
R8835	B	C	7N
R8836	B	C	7N
R8837	B	C	7N
R8838	B	C	7N
R8839	A	C	6N
R8840	A	C	6N
R8841	A	C	7N
R8842	A	C	7N
R8843	A	C	7N
R8844	A	C	7N
R8845	A	C	7N
R8846	A	C	7N
R8847	A	C	7N
R8848	A	C	7N
R8849	A	C	7N
R8850	A	C	6N
R8851	A	C	5N
R8852	A	C	6M
R8853	A	C	6N
R8854	A	C	6N
R8855	A	C	6N
R8856	A	C	6M
R8857	A	C	6N
R8858	B	C	5N
R9001	B	C	9L
R9002	B	C	9L
R9003	B	C	8L
R9004	B	C	8L
R9005	B	C	8L
R9006	B	C	8L
R9007	A	C	9O
R9008	A	C	9O
R9009	B	C	8L
R9010	B	C	8L
R9011	B	C	8M
R9012	B	C	8M
R9013	B	C	8M
R9014	B	C	8L
R9015	B	C	8L
R9016	B	C	8M
R9017	B	C	8M
R9018	B	C	8M
R9019	A	C	7L
R9020	A	C	7L
R9021	B	C	8N
R9022	A	C	8N
R9023	A	C	9N
R9024	A	C	9O
R9025	B	C	10M
R9026	B	C	10M
R9027	A	C	8L
R9028	A	C	9K
R9029	A	C	9K
R9030	A	C	10K
R9031	B	C	10N
R9032	A	C	2I
R9033	A	C	2I
R9034	A	C	2I
R9035	A	C	2I
R9036	A	C	2I
R9037	A	C	2J
R9038	A	C	2J
R9039	A	C	2J
R9040	A	C	2J
R9041	B	C	2I
R9042	B	C	2I
R9043	B	C	2I
R9044	B	C	2I
R9045	B	C	2I
R9046	B	C	2J
R9047	B	C	2J
R9048	B	C	2J
R9049	B	C	2J
R9050	A	C	2M
R9051	A	C	2M
R9052	A	C	2M
R9055	B	C	2M
R9056	A	C	2K
R9057	A	C	2K
R9058	A	C	2K
R9059	A	C	2K
R9060	A	C	2L
R9061	A	C	2L
R9062	B	C	2K
R9063	B	C	2K
R9064	B	C	2K
R9065	B	C	2K
R9066	B	C	2L
R9067	B	C	2L
R9068	A	C	8O
R9069	A	C	8O
R9072	B	C	9L
R9073	B	C	8L
R9074	B	C	8M

REF.NO.	LOCATION		
R9075	B	C	8M
R9076	B	C	8M
R9077	B	C	8M
R9078	B	C	8M
R9079	B	C	8M
R9080	B	C	8M
R9081	B	C	8M
R9082	B	C	8M
R9083	B	C	8N
R9084	B	C	8N
R9085	A	C	8N
R9086	A	C	8N
R9087	A	C	8N
R9088	A	C	8N
R9089	A	C	9N
R9090	A	C	9N
R9092	B	C	10M
R9093	A	C	10M
R9094	A	C	10M
R9095	A	C	10M
R9096	A	C	8N
R9097	B	C	9L
R9098	B	C	9L
R9101	B	C	8N
R9102	B	C	8N
R9103	B	C	8N
R9104	B	C	10M
R9106	B	C	8L
R9107	B	C	10N
R9108	B	C	10O
R9109	B	C	10O
R9110	B	C	9O
R9111	B	C	9O
R9112	A	C	9O
R9113	A	C	10O
R9114	A	C	10O
R9115	A	C	10O
R9116	A	C	10O
R9117	B	C	8N
R9118	B	C	9N
R9119	A	C	10L
R9120	A	C	10L
R9121	A	C	10L
R9122	B	C	8N
R9123	B	C	8N
R9124	B	C	8N
R9125	B	C	8N
R9126	B	C	8N
R9127	B	C	8N
R9128	A	C	10L
R9129	A	C	10L
R9130	A	C	10L
R9131	B	C	9N
R9132	B	C	8N
R9141	B	C	10N
R9142	B	C	9N
R9143	B	C	9N
R9144	B	C	10N
R9145	B	C	9N
R9146	B	C	9N
R9147	B	C	9N
R9148	B	C	9N
R9149	B	C	9N
R9150	B	C	9L
R9151	B	C	9L
R9152	B	C	9L
R9301	A	C	5F
R9302	A	C	5F
R9303	A	C	5F
R9304	A	C	4F
R9305	A	C	4F
R9306	B	C	4G
R9307	A	C	5H
R9308	A	C	5H
R9309	B	C	5H
R9310	B	C	7H
R9311	B	C	7H
R9312	B	C	7H
R9313	B	C	7G
R9314	B	C	7G
R9315	B	C	7G
R9316	B	C	7G
R9317	B	C	7G
R9318	B	C	7G
R9319	B	C	6I
R9320	B	C	6H
R9321	A	C	6I
R9322	A	C	6I
R9323	A	C	6G
R9324	A	C	6G
R9325	A	C	6G
R9326	B	C	7G
R9327	A	C	5F
R9328	A	C	6G
R9329	B	C	6E
R9330	B	C	5E
R9331	A	C	5F
R9332	B	C	5E
R9333	A	C	4G
R9334	A	C	6G
R9335	B	C	7G
R9336	A	C	6H
R9337	A	C	6H
R9338	A	C	6H
R9339	A	C	6H

REF.NO.	LOCATION		
R9340	A	C	6H
R9341	A	C	6H
R9342	A	C	6H
R9343	A	C	6H
R9344	A	C	5H
R9345	A	C	5H
R9346	A	C	6H
R9347	A	C	6I
R9348	A	C	6H
R9349	A	C	6H
R9350	A	C	6G
R9351	A	C	5G
R9352	A	C	6G
R9353	A	C	5G
R9354	A	C	5G
R9355	A	C	6J
R9356	B	C	4F
R9357	B	C	4F
R9358	B	C	4F
R9359	B	C	5F
R9360	B	C	7H
R9361	A	C	7I
R9362	A	C	6I
R9363	B	C	7I
R9364	B	C	7I
R9365	B	C	7I
R9366	B	C	7I
R9367	B	C	7I
R9601	A	C	9E
R9602	A	C	10E
R9603	A	C	10E
R9604	A	C	10E
R9605	A	C	10E
R9606	A	C	10E
R9607	A	C	3D
R9608	A	C	2D
R9609	B	C	2D
R9610	B	C	5B
R9611	B	C	5B
R9612	B	C	5B
R9613	A	C	4N
R9614	A	C	4N
R9615	A	C	4N
R9616	A	C	2H
R9617	A	C	2H
R9618	A	C	2H
R9619	A	C	5I
R9620	A	C	5I
R9621	A	C	5H
R9622	A	C	5N
R9623	A	C	5N
R9624	A	C	5N
R9625	A	C	5D
R9626	A	C	6D
R9627	A	C	6D
R9628	A	C	5C
R9629	A	C	5C
R9630	A	C	5C
R9631	A	C	5D
R9632	A	C	5D
R9633	A	C	4D
R9634	A	C	4D
R9635	B	C	4D
R9636	B	C	4D
R9637	A	C	4C
R9638	A	C	4C
R9639	A	C	4C
R9640	B	C	4C
R9641	B	C	4C
R9642	B	C	5D
R9643	B	C	5D
R9644	A	C	5C
R9645	A	C	5C
R9646	A	C	5C
R9647	B	C	4C
R9648	B	C	5C
R9649	A	C	4D
R9650	A	C	4E
R9651	A	C	9D
R9652	A	C	9D
R9653	A	C	9D
R9654	A	C	9D
R9655	A	C	9D
R9656	A	C	9D
R9657	A	C	9D
R9658	B	C	7E
R9659	B	C	7E
R9660	B	C	8E
R9661	B	C	8E
R9662	B	C	8E
R9663	B	C	8E
R9664	A	C	9E
R9665	A	C	9E
R9666	A	C	9E
R9667	A	C	9E
R9668	A	C	9E
R9669	A	C	9E
R9670	A	C	9E
R9671	B	C	4E
R9672	B	C	4D
R9673	B	C	4D
R9674	B	C	4D
R9675	A	C	4E
R9676	A	C	4E
R9677	B	C	4F

REF.NO.	LOCATION		
R9678	B	C	4F
R9679	B	C	4F
R9680	B	C	5F
R9681	B	C	2D
R9682	A	C	5D
R9683	A	C	5N
R9684	A	C	7F
R9685	B	C	4C
R9686	A	C	4C
R9687	B	C	4D
R9688	B	C	5C
R9689	A	C	5C
R9690	B	C	5D
R9691	A	C	7E
R9801	B	C	3C
R9802	B	C	4C
R9803	B	C	3C
R9804	B	C	4C
R9805	B	C	4D
R9806	B	C	4D
R9807	B	C	3C
R9808	A	C	3C
R9809	B	C	3D
R9810	B	C	4C
R9811	B	C	3C
R9812	A	C	4C
R9813	A	C	3B
R9814	A	C	4B
R9815	A	C	3B
R9816	B	C	4B
R9817	B	C	3B
R9818	B	C	4B
R9819	B	C	3B
R9820	B	C	4B
R9821	B	C	3B
R9822	B	C	4B
R9823	B	C	3B
R9824	B	C	4B
R9825	B	C	3B
R9826	B	C	4B
R9827	B	C	3B
R9828	B	C	4B
R9829	B	C	3A
R9830	B	C	4B
R9831	B	C	4B
R9832	B	C	3B
R9833	B	C	4B
R9834	B	C	3B
R9835	B	C	3B
R9836	B	C	3A
VR8601	A	D	7B

RESISTOR ARRAY

REF.NO.	LOCATION		
RA8001	B	C	5L
RA8002	B	C	5L
RA8003	B	C	5M
RA8004	B	C	5L
RA8005	A	C	4M
RA8006	A	C	3M
RA8007	A	C	3M
RA8008	B	C	4M
RA8009	B	C	3M
RA8010	B	C	3M
RA8011	A	C	4K
RA8012	A	C	4K
RA8013	A	C	4K
RA8014	A	C	5K
RA8015	A	C	3L
RA8016	A	C	3L
RA8017	A	C	3L
RA8601	B	C	7D
RA8602	B	C	8D
RA8603	B	C	8D
RA8604	B	C	8D
RA8801	B	C	5N
RA8802	B	C	5N
RA9001	B	C	9L
RA9002	B	C	9L
RA9003	B	C	9L
RA9004	B	C	8L
RA9005	B	C	8L
RA9006	B	C	8L
RA9301	A	C	5G
RA9302	A	C	4G
RA9303	A	C	4G
RA9304	A	C	4G
RA9305	A	C	4G
RA9306	A	C	5H
RA9307	A	C	5G
RA9308	B	C	7G
RA9309	B	C	7F
RA9310	B	C	7F
RA9311	B	C	7F
RA9312	B	C	6F
RA9313	B	C	6F
RA9314	B	C	6F
RA9315	B	C	6F
RA9316	B	C	5F
RA9317	A	C	6E
RA9318	A	C	6E
RA9319	A	C	5E
RA9320	B	C	6E
RA9321	B	C	6E
RA9323	A	C	6G
RA9324	A	C	6H
RA9325	A	C	7G
RA9326	A	C	7F
RA9327	A	C	7F
RA9328	A	C	7F
RA9329	A	C	6F
RA9330	A	C	6F
RA9331	A	C	6F
RA9332	A	C	6F
RA9333	A	C	5F
RA9601	A	C	5D
RA9602	B	C	4E
RA9603	B	C	4E
RA9604	B	C	4E
RA9605	A	C	5F
RA9606	B	C	5E
RA9607	B	C	5F
RA9608	B	C	4E
RA9609	B	C	4E
RA9610	B	C	6D
RA9611	B	C	6D
RA9612	B	C	5D

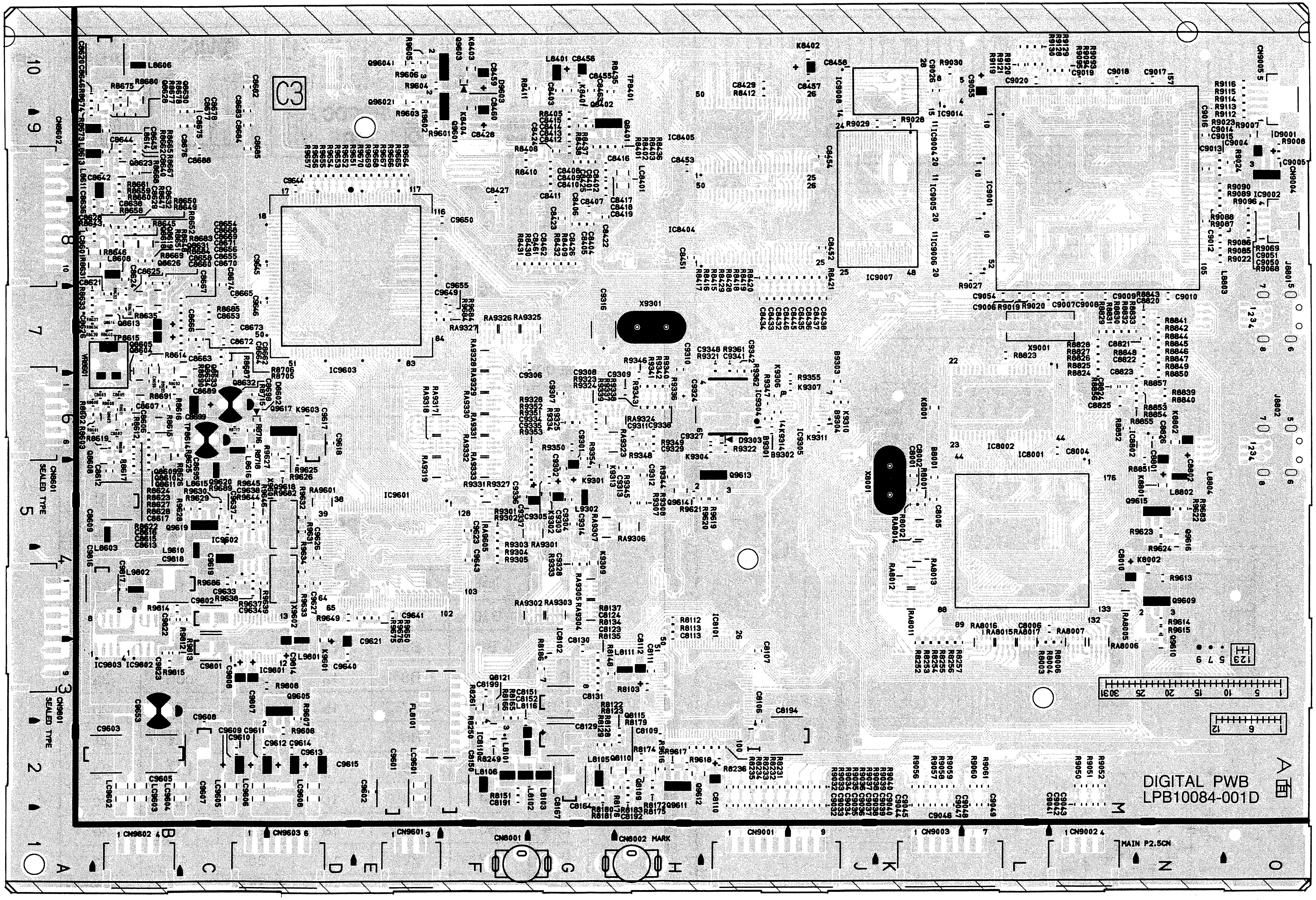
TEST POINT

REF.NO.	LOCATION		
TP8401	A	C	10H
TP8602	B	C	6A
TP8603	B	C	6A
TP8604	B	C	8A
TP8605	B	C	9A
TP8606	B	C	9A
TP8607	B	C	7A
TP8608	B	C	10M
TP8609	B	C	10L
TP8610	B	C	10L
TP8611	B	C	10L
TP8612	B	C	6B
TP8613	B	C	7B
TP8614	A	C	6B
TP8615	A	C	7B
TP9001	B	C	10L
TP9002	B	C	9L
TP9003	B	C	9L
TP9302	B	C	6J
TP9303	B	C	5F

OTHER

REF.NO.	LOCATION		
FL8101	A	C	3F
K8001	A	C	6K
K8002	A	C	4N
K8101	B	C	2H
K8401	A	C	10G
K8402	A	C	10J
K8403	A	C	10F
K8404	A	C	10F
K8801	A	C	5N
K8802	A	C	6N
K9001	B	C	2J
K9002	B	C	8M
K9301	A	C	5G
K9302	A	C	5G
K9303	B	C	5F
K9304	A	C	6I
K9305	B	C	6I
K9306	A	C	6I
K9307	A	C	6J
K9308	B	C	6J
K9309	A	C	4G
K9310	A	C	6J
K9311	A	C	6J
K9312	B	C	5F
K9313	A	C	5G
K9314	A	C	6I
K9601	A	C	3D
K9602	B	C	4E
K9603	A	C	6D
LC8401	A	C	9H
LC8601	A	C	8B
LC9601	A	C	2E
LC9602	A	C	2B
LC9603	A	C	2B
LC9604	A	C	2C
LC9605	A	C	2C
LC9606	A	C	2C
LC9608	A	C	2D
TL8601	B	C	8C
TL9301	B	C	6H
X8001	A	D	5K
X8401	B	C	10G
X8801	B	C	8M
X9001	A	C	7L
X9301	A	D	7H
X9302	B	C	6I
X9601	A	C	5D
X9602	A	C	4D

— COMPONENT SIDE (A) —


DIGITAL PWB
LPB10084-001D
C3
IC9603
IC9601
IC8002
IC8001
IC9007
IC8404
IC8405
X9301
X9001
X8001
CN9602
CN9603
CN9601
CN8001
CN8002 MARK
CN9001
CN9003
CN9002
CN9605
CN9604
CN8601
CN9601 SEALED TYPE
CN8601 SEALED TYPE
MAIN P2.5CN
J8801
J8802
A
B
C
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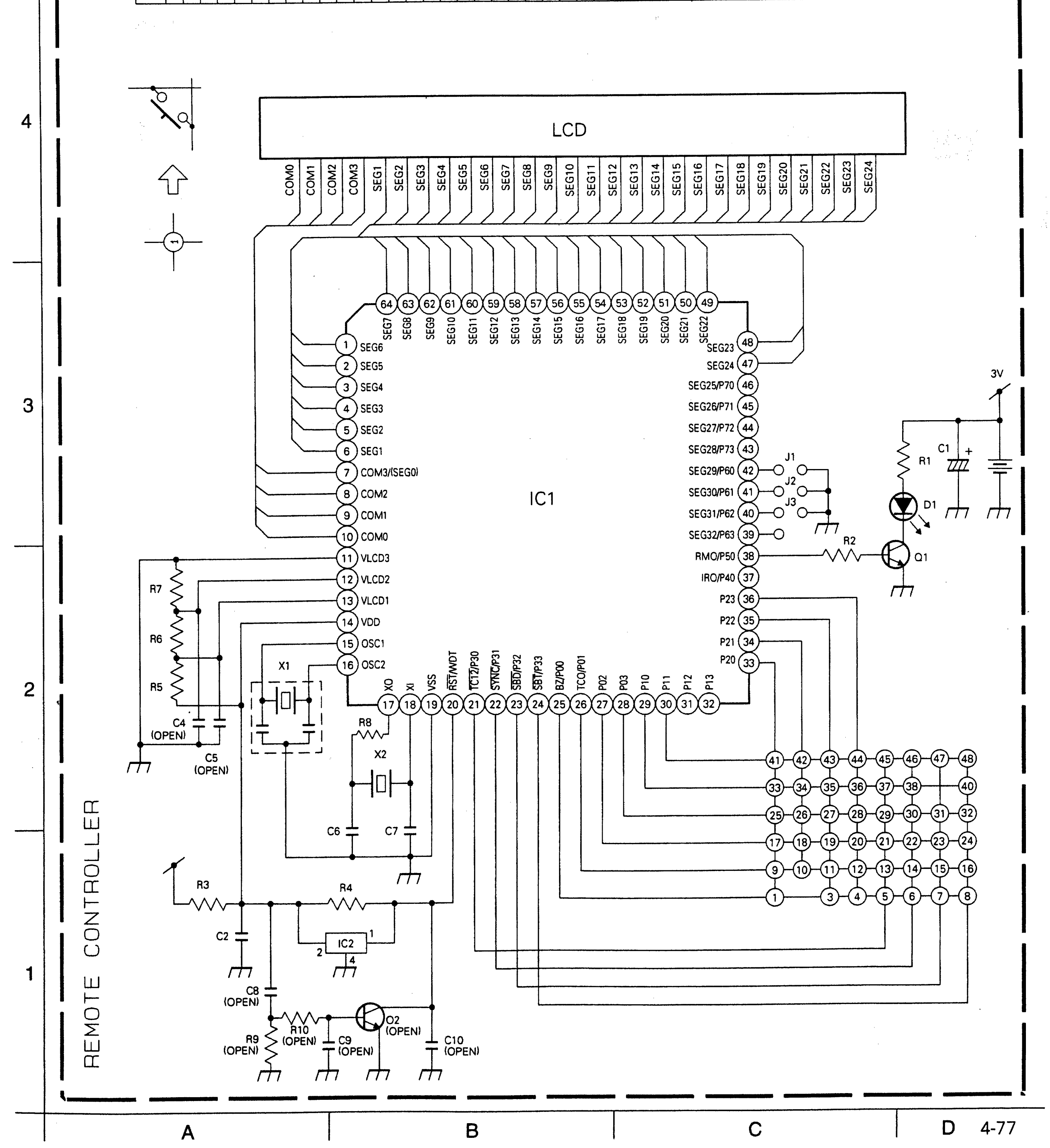
4.34 REMOTE CONTROL SCHEMATIC DIAGRAM

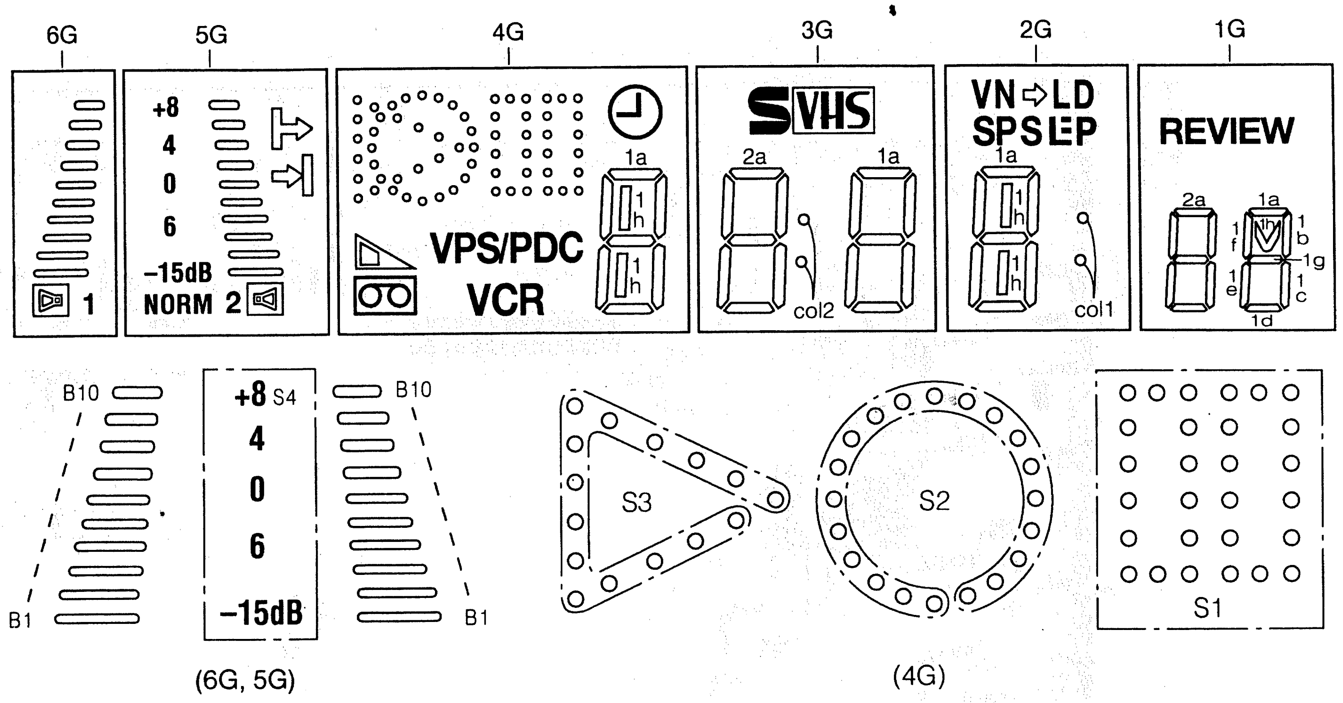
NOTES:
1. All parts shown in this schematic are critical for safety.
2. This schematic is only for reference.
Avoid replacing individual parts.
Replace the entire unit only.

KEY No.	KEY NAME
1	DATE−
3	►► (FF)
4	TV PROG−
5	START−
6	◄◄ (REW)
7	► (PLAY)
8	STOP−
9	9/WEEKLY
10	▮/▮▮ (SP/LP)
11	◷ (TIMER)
12	MENU
13	X10000 (CANCEL)
14	7/VPS
15	0/AUX
16	8/DAILY
17	DATE+
18	NAVIGATION
19	TV PROG+
20	OK
21	PROG
22	START+
23	◷ ?(PROG CHECK)
24	STOP+
25	6
26	3
27	(TRANS)
28	30 SEC
29	1
30	4
31	2
32	5
33	▼/TV PROG−
34	▲/TV PROG+
35	/TV◁+
36	▮▮ (PAUSE)
37	● (REC)
38	/TV◁−
40	■ (STOP)
41	CABLE/SAT
42	- · - -/ENTER
43	⏻/ǀ (POWER)
44	TV/VCR
45	LCD PROG
46	VCR
47	AUDIO/◁/✕ (MUTE)
48	TV
37+7	REC START
37+36	REC PAUSE


LCD
COM0
COM1
COM2
COM3
SEG1
SEG2
SEG3
SEG4
SEG5
SEG6
SEG7
SEG8
SEG9
SEG10
SEG11
SEG12
SEG13
SEG14
SEG15
SEG16
SEG17
SEG18
SEG19
SEG20
SEG21
SEG22
SEG23
SEG24
IC1
COM3/(SEG0)
VLCD3
VLCD2
VLCD1
VDD
OSC1
OSC2
XO
XI
VSS
RST/WDT
TC12/P30
SYNC/P31
SBO/P32
SBT/P33
BZ/P00
TCO/P01
P02
P03
P10
P11
P12
P13
SEG25/P70
SEG26/P71
SEG27/P72
SEG28/P73
SEG29/P60
SEG30/P61
SEG31/P62
SEG32/P63
RMO/P50
IRO/P40
P23
P22
P21
P20
J1
J2
J3
R1
R2
C1
D1
Q1
3V
R3
R4
R5
R6
R7
R8
R9 (OPEN)
R10 (OPEN)
C2
C4 (OPEN)
C5 (OPEN)
C6
C7
C8 (OPEN)
C9 (OPEN)
C10 (OPEN)
Q2 (OPEN)
X1
X2
IC2
REMOTE CONTROLLER
1
2
3
4
5
A
B
C
D

4.35 FDP GRID ASSIGNMENT AND ANODE CONNECTION

GRID ASSIGNMENT


6G
5G
4G
3G
2G
1G
+8
4
0
6
−15dB
NORM 2
1
VPS/PDC
VCR
1a
1h
SVHS
2a
col2
VN⇨LD
SPS LP
col1
REVIEW
1b
1f
1g
1e
1c
1d
B10
B1
+8 S4
S3
S2
S1
(6G, 5G)
(4G)

ANODE CONNECTION

	6G	5G	4G	3G	2G	1G
P 1	—	⇨	S2	1a	1a	1a
P 2	—	⇥	S1	1b	1b	1b
P 3	—	S4	S3	1f	1f	1f
P 4	—	NORM	VPS/PDC	1g	1g	1g
P 5	1	2	◷	1c	1c	1c
P 6	▣	▣	◺	1e	1e	1e
P 7	B10	B10	▭	1d	1d	1d
P 8	B9	B9	VCR	col2	1h	1h
P 9	B8	B8	1a	2a	col1	2a
P10	B7	B7	1b	2b	⇨	2b
P11	B6	B6	1f	2f	VN	2f
P12	B5	B5	1g	2g	LD	2g
P13	B4	B4	1c	2c	SP	2c
P14	B3	B3	1e	2e	S (SEP)	2e
P15	B2	B2	1d	2d	: (SEP)	2d
P16	B1	B1	1h	SVHS	LP (SEP)	REVIEW

4.36 VOLTAGE CHARTS

< SW REG >

MODE PIN NO.	REC	PLAY
IC5101		
1	-	-
2	-	-
3	102.4	108.3
4	-	-
5	0	0
IC5301		
1	2.4	2.4
2	0	0
3	10.9	10.9
IC5302		
1	12.6	12.6
2	11.9	11.9
3	0	0
4	3.4	3.4
IC5303		
1	5.7	5.7
2	5.2	5.2
3	0	0
4	1.2	1.2
IC5304		
1	-	-
2	-	-
3	0	0
4	-	-
IC5305		
1	5.7	5.7
2	5.2	5.2
3	0	0
4	2.6	2.6
IC5307		
1	3.5	3.5
2	3.3	3.3
3	0	0
4	2.6	2.6
Q5301		
E	2.8	2.8
C	0	0
B	2.8	2.8
Q5302		
E	-16.7	-16.7
C	-16.7	-16.7
B	-16.0	-16.0
Q5303		
E	0	0
C	0	0
B	4.1	4.1
Q5304		
E	31.8	31.8
C	31.8	31.8
B	31.2	31.2
Q5305		
E	12.5	12.5
C	11.9	11.9
B	11.2	11.2
Q5308		
E	0	0
C	0	0
B	4.1	4.1
Q5310		
E	0	0
C	10.9	10.9
B	0	0
Q5311		
E	3.5	3.5
C	3.5	3.5
B	0.7	0.7
Q5312		
E	-	-
C	-	-
B	-	-
CN5301		
1	-15.2	-15.2
2	-28.0	-28.0
3	-19.0	-19.0
4	0	0
5	5.2	5.2
CN5303		
1	11.9	11.9
2	12.2	12.2
3	11.9	11.9
4	0	0
5	5.1	5.1
CN5304		
1	4.1	4.1
2	0	0
3	5.7	5.7
4	0	0
5	22.1	21.9
6	44.9	44.9
7	5.7	5.7
8	0	0
9	-9.2	-9.2
10	31.5	31.5
11	4.1	4.1
CN5305		
1	2.1	2.1
2	3.1	3.1
3	3.1	3.1
4	0	0
5	0	0
6	3.3	3.3
CN5306		
1	0	0
2	0	0
3	5.2	5.2
CN5307		
1	11.9	11.9
2	0	0
3	5.2	5.2
4	-10.0	-10.0

< VIDEO/N.AUDIO >

MODE PIN NO.	REC	PLAY
IC1		
1	2.5	2.5
2	2.5	2.5
3	0	0
4	2.4	2.4
5	0	0
6	2.8	2.8
7	2.5	2.5
8	2.5	2.5
9	2.5	2.5
10	2.4	2.4
11	2.4	2.4
12	5.0	5.0
13	1.9	1.4
14	1.9	1.4
15	2.6	3.0
16	1.5	0.7
17	1.8	1.2
18	2.3	2.3
19	3.0	3.0
20	2.7	2.7
21	2.3	2.3
22	1.9	1.9
23	3.0	3.0
24	2.1	2.1
25	1.4	1.4
26	2.1	2.1
27	0	0
28	5.0	5.0
29	1.7	1.9
30	2.7	2.7
31	2.8	2.8
32	0	0
33	0	0
34	0	0
35	3.0	3.0
36	5.0	5.0
37	0	0
38	5.0	5.0
39	3.3	3.3
40	5.0	5.0
41	5.0	5.0
42	1.9	1.9
43	5.0	5.0
44	2.6	2.6
45	0	0
46	2.0	2.0
47	0	0
48	0	0
49	0	0
50	0.4	0.4
51	0	0
52	1.4	2.4
53	3.1	2.9
54	2.0	2.0
55	2.1	2.1
56	2.8	2.5
57	0	0
58	3.0	3.0
59	3.4	3.4
60	2.1	2.1
61	5.0	5.0
62	4.6	4.6
63	4.6	4.6
64	0	0
65	0.9	2.6
66	5.0	5.0
67	5.0	5.0
68	0	0
69	2.8	2.8
70	2.7	2.7
71	2.1	2.1
72	2.3	2.1
73	-	-
74	2.7	1.0
75	-	-
76	2.3	2.3
77	4.5	4.5
78	2.8	2.8
79	4.3	2.1
80	0	0
81	2.5	-
82	1.2	1.2
83	2.3	2.3
84	0	1.3
85	0	0
86	2.3	2.3
87	2.3	2.3
88	2.3	2.3
89	2.3	2.3
90	5.0	5.0
91	0	0
92	0	0
93	0	0
94	0	0
95	0.4	0.6
96	5.0	5.0
97	0	0
98	4.4	4.4
99	0.5	2.6
100	2.9	2.5
IC2		
1	2.8	2.8
2	0	0
3	2.8	2.8
4	5.0	0
5	2.8	2.8
6	5.0	5.0
7	2.1	2.1
8	0	0
IC3		
1	2.8	2.8
2	0	0
3	2.8	2.8
4	0	0
5	0	0
6	5.0	5.0
7	2.0	2.0
8	0	0
IC4		
1	2.0	2.0
2	5.0	5.0
3	2.6	2.6
4	0	0
Q1		
E	3.4	3.4
C	0	0
B	2.8	2.8
Q6		
E	2.7	2.7
C	0	0
B	2.1	2.1
Q13		
E	1.1	1.1
C	3.9	3.9
B	1.7	1.7
Q14		
E	3.3	3.3
C	5.0	5.0
B	3.9	3.9
Q15		
E	3.9	3.9
C	0	0
B	3.3	3.3
Q16		
E	5.0	5.0
C	5.0	0
B	0	5.0
Q17		
E	0	0
C	0	0
B	2.7	2.7
Q18		
E	0	0
C	0	0
B	2.7	2.7
Q34		
E	2.3	2.3
C	2.3	2.3
B	0	0
Q35		
E	2.3	2.3
C	2.3	2.3
B	0	0
Q36		
E	0	0
C	0	0
B	0.7	0.7
Q37		
E	0	0
C	0	0
B	0.7	0.7
Q47		
D	5.0	5.0
G	2.3	2.1
S	3.5	3.5
Q48		
D	2.4	2.4
G	0	0
S	1.1	1.1
Q49		
E	2.1	2.1
C	5.0	5.0
B	2.8	2.8
Q55		
E	0	0
C	0	0
B	2.7	2.7
Q152		
E	5.0	2.7
C	0	0
B	4.3	2.1
Q159		
E	1.7	1.7
C	5.0	5.0
B	2.3	2.3
Q2001		
E	-14.1	0
C	0	0
B	-20.7	0.7
Q2002		
E	-14.1	0
C	0	0
B	-20.7	0.7
Q2003		
E	4.9	4.9
C	-20.5	4.9
B	4.9	0
Q2051		
E	0	0
C	8.6	0.2
B	0.4	0.2
Q2052		
E	11.9	11.9
C	11.7	11.7
B	11.1	11.8
Q2053		
E	0	0
C	0	11.8
B	4.9	0
Q2054		
E	11.7	0
C	11.5	0
B	10.9	0.7
Q2055		
E	0	0
C	0	0
B	4.8	4.8
CN1		
1	0	0
2	0	0
3	0	0
4	0	0
5	2.3	2.3
6	2.3	2.3
7	2.3	2.3
8	2.3	2.3
CN101		
1	0	0
2	2.5	-
3	4.7	4.7
4	-	-
5	4.7	4.7
6	0	0
7	0	0
8	0	0
9	0.5	0.5
10	0	0
11	0	0
12	0	0
13	5.0	5.0
14	5.0	5.0
15	0	0
16	0	0
17	0.4	0.4
18	0	0
19	3.4	3.4
20	0.4	0
21	0	0
22	2.1	2.1
23	0	0
24	2.7	2.7
25	0	0
26	2.7	2.7
27	0	0
28	0	0
29	0	0
30	0.4	0
CN102		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	1.4	1.1
8	1.9	1.9
9	1.4	2.4
10	4.9	4.9
11	2.3	2.3
12	2.7	2.7
13	0	0
14	0	0
15	2.4	2.4
16	0	0
17	4.6	4.6
18	4.6	4.6
19	5.0	5.0
20	4.9	4.9
21	2.4	2.4
22	0	0
23	2.4	2.4
24	0	0
25	0	0
26	2.3	2.3
27	2.4	2.4
28	2.3	2.3
29	0	0
30	2.1	2.1
CN606		
1	0	0
2	0	0
3	0	0
4	4.9	4.9
5	4.9	4.9
6	11.9	11.9
7	4.8	4.8
8	-	-
9	5.2	0
CN2001		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	2.3	2.5
7	2.3	2.5
CN2002		
1	0	0
2	0	0

< ON SCREEN >

MODE PIN NO.	REC	PLAY
IC201		
1	0	0
2	2.7	2.7
3	4.9	4.9
4	0	0
5	4.5	-
6	2.5	2.5
7	2.5	2.5
8	5.0	5.0
9	-	-
10	4.7	4.7
11	-	-
12	5.1	5.1
13	2.8	2.8
14	2.8	2.8
15	0	0
16	1.2	1.2
17	0	0
18	5.1	5.1
19	2.4	2.4
20	0	0
21	2.4	2.4
22	0.3	0.3
23	5.1	5.1
24	2.9	2.9
25	2.6	2.6
26	5.1	5.1
27	4.7	-
28	3.6	3.6
29	5.0	5.0
30	5.1	5.1
Q207		
E	3.0	3.0
C	0	0
B	2.4	2.4
Q208		
E	2.4	2.4
C	5.0	5.0
B	3.0	3.0

< FMA >

MODE PIN NO.	REC	PLAY
IC2201		
1	2.3	2.3
2	0	0
3	2.4	2.4
4	0	0
5	0	0
6	2.4	2.4
7	2.0	2.0
8	0	0
9	0	0
10	0	0
11	0	0
12	2.0	2.0
13	0	0
14	0	0
15	0	0
16	2.4	2.4
17	0.6	0.6
18	2.5	2.5
19	2.5	2.5
20	2.5	0
21	2.5	0
22	2.6	0.7
23	0	0
24	2.6	0.7
25	4.9	4.9
26	2.6	0
27	0	-
28	4.2	3.2
29	1.4	0.4
30	0	0
31	0	1.8
32	2.5	2.5
33	2.5	2.5
34	0.8	0.8
35	2.5	2.5
36	0	0
37	1.6	1.6
38	0	0
39	0	0
40	4.9	4.9
41	0	0
42	4.6	4.6
43	4.6	4.6
44	3.3	3.3
45	0	0
46	0	0
47	2.5	2.5
48	2.5	2.5
49	3.3	3.3
50	0.7	0.7
51	0	0
52	0	0
53	4.4	4.4
54	0	0
55	0	0
56	0	0
57	4.4	4.4
58	10.0	10.0
59	4.5	4.5
60	0	0
61	2.5	2.5
62	2.4	2.4
63	4.3	4.3
64	4.4	4.4
IC2601		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	-9.2	-9.2
8	0	0
9	0	0
10	0	0
11	0	0
12	0	0
13	0	0
14	0	0
15	0	0
16	5.0	5.0
IC2602		
1	0	0
2	0	0
3	0	0
4	-9.2	-9.2
5	0	0
6	0	0
7	0	0
8	5.0	5.0
Q2151		
E	1.5	1.5
C	5.0	5.0
B	2.1	2.1
Q2253		
E	0	0
C	0	0
B	4.5	0
Q2601		
E	5.0	5.0
C	0	-0.4
B	5.0	5.0
Q2602		
E	0	0
C	5.0	5.0
B	0	0
CN607		
1	0	-
2	0	0
3	0	0
4	4.9	0
5	4.8	0.4
6	0	0
7	0	0
8	0	0
9	0	0
10	1.4	0.3
CN2601		
1	0	0
2	0	0
3	0	0

MODE PIN NO.	REC	PLAY
4	0	0
5	0	0
6	0	0
7	2.4	2.4
8	0	0
9	0	0

< SYSCON >

MODE PIN NO.	REC	PLAY
IC3001		
1	-	2.5
2	0	0
3	-	2.5
4	2.5	2.5
5	2.5	2.5
6	2.5	2.5
7	2.5	2.5
8	2.5	2.5
9	5.0	5.0
10	5.0	5.0
11	0	0
12	0	0
13	0	1.3
14	4.7	4.7
15	4.9	4.9
16	0.7	0.7
17	3.3	3.3
18	0	0
19	4.7	0
20	4.4	4.4
21	4.1	4.1
22	4.1	3.2
23	0	0
24	0	0
25	5.0	5.0
26	0	0
27	5.0	5.0
28	4.9	4.9
29	5.2	5.2
30	0	0
31	5.0	5.0
32	0	0
33	0	0
34	-	-
35	0	0
36	4.3	4.3
37	4.8	4.8
38	1.2	1.2
39	4.3	-
40	0	0
41	5.0	5.0
42	4.8	4.8
43	0	0
44	5.0	5.0
45	5.0	5.0
46	5.1	5.1

MODE PIN NO.	REC	PLAY
47	0	0
48	4.9	4.9
49	4.7	4.7
50	4.7	4.7
51	4.9	4.9
52	-	-
53	4.4	-
54	-	-
55	-	-
56	0	0
57	0	0
58	0	0
59	0	0
60	0	0
61	0	0
62	0	0
63	0	0
64	-	-
65	-	-
66	-	-
67	-	-
68	0	0
69	-	-
70	4.9	4.9
71	4.9	4.9
72	-	-
73	4.9	4.9
74	0	0
75	-	-
76	4.6	4.6
77	0	0
78	0	0
79	0.5	0.5
80	0	0
81	0	0
82	5.0	5.0
83	-	-
84	0	0
85	0	0
86	4.6	4.6
87	0	0
88	4.9	0
89	0	0
90	2.6	2.6
91	-	-
92	-	-
93	0	0
94	5.0	5.0
95	5.0	5.0
96	5.1	5.1
97	0	0
98	0.3	0.3
99	0	-
100	-	-
101	2.5	2.5
102	1.2	1.2
103	4.9	4.9
104	0	0
105	0	0
106	0.2	0.2
107	0	0

MODE PIN NO.	REC	PLAY
108	1.6	1.6
109	5.0	5.0
110	0	0
111	0	0
112	2.5	2.5
IC3002		
1	4.9	4.9
2	4.9	4.9
3	0	0
IC3003		
1	0	0
2	0	0
3	0	0
4	0	0
5	-	-
6	-	-
7	0	0
8	5.0	5.0
IC3004		
1	0	0
2	12.2	12.2
3	-	-
4	-	-
5	0	0
6	12.2	12.2
7	-	-
8	12.2	12.2
9	0	0
IC3005		
1	-	-
2	0	0
3	0	0
4	0	0
5	4.9	4.9
6	-	-
7	1.2	1.2
8	5.0	5.0
Q3001		
E	0	0
C	12.2	12.2
B	0	0
Q3002		
E	0	0
C	4.7	4.7
Q3003		
E	0	0
C	4.9	4.9
Q3004		
E	0	0
C	0	0
B	0.7	0.7
Q3005		
E	5.0	5.0
C	5.7	5.7
B	5.6	5.6
Q3008		
E	0	0
C	4.8	4.8
B	0	0
Q3050		
E	0	0

MODE PIN NO.	REC	PLAY
C	0	0
B	4.9	4.9
Q4001		
E	0	0
C	0	0
B	4.5	4.5
CN3001		
1	11.9	11.9
2	0	0
3	1.4	1.4
4	0	0
5	1.6	1.6
CN3002		
1	0	0
2	0	0
CN3003		
1	2.5	2.5
2	5.0	5.0
3	5.0	5.0
4	2.5	2.5
5	11.4	11.4
6	0	0
7	-	-
8	0	0
CN3004		
1	0	0
2	5.0	5.0
3	5.0	5.0
4	-	-
5	0	0
CN3011		
1	0	0
2	0	0
3	0.2	0.2
4	5.0	5.0
5	5.0	5.0
6	5.0	5.0
7	5.0	5.0
8	5.0	5.0
9	5.0	5.0
10	5.0	5.0
11	0	0
12	0	0
13	0	0
14	0	0
15	5.2	5.2
16	4.2	4.2
17	1.5	1.5
18	4.9	4.9
19	4.5	4.5
20	5.0	5.0
21	5.0	5.0
22	0	0
CN3601		
1	11.9	11.9
2	12.2	12.2
3	11.9	11.9
4	0	0
5	5.1	5.1
CN3602		
1	2.6	2.6

MODE PIN NO.	REC	PLAY
2	-	-
3	-	-
4	0	0
5	4.8	4.8
6	0.4	0.4
7	0	0
8	0	0
9	5.1	5.1
CN3603		
1	0	0
2	0	0
3	0	0
4	0	0
CN3604		
1	4.1	4.1
2	0	0
3	5.7	5.7
4	0	0
5	22.1	21.9
6	44.9	44.9
7	5.7	5.7
8	0	0
9	-9.2	-9.2
10	31.5	31.5
11	4.1	4.1
CN3605		
1	5.2	0
2	1.2	1.2
3	-	-
4	-	-
5	0	0
6	5.0	5.0
7	4.8	4.8

< SYSCON SUB >

MODE PIN NO.	REC	PLAY
IC3301		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	0	0
8	0	0
9	0	0
10	5.0	5.0
11	5.0	5.0
12	-	-
13	-	-
14	0	0
15	0	0
16	5.0	5.0
17	0	0
18	0	0
19	0	0

MODE PIN NO.	REC	PLAY
20	0	0
21	5.0	5.0
22	-	-
23	-	-
24	0	0
25	0	0
26	-	-
27	5.2	5.2
28	0	0
29	0	0
30	0	0
31	0.5	0.5
32	0	0
33	-	-
34	0	0
35	0	0
36	0	0
37	0	0
38	0	0
39	4.7	4.7
40	0.4	0.4
41	0	0
42	5.0	5.0
43	5.2	5.2
44	0.4	0.4
45	5.0	5.0
46	0.4	0.4
47	5.0	5.0
48	5.0	5.0
49	0	0
50	0	0
51	5.0	5.0
52	0	0
53	4.9	4.9
54	0	0
55	0	0
56	4.9	0
57	0	0
58	0	0
59	0	0
60	0	0
61	0	0
62	4.9	4.9
63	5.0	5.0
64	0	0
65	0	0
66	4.9	4.9
67	0	0
68	0	0
69	4.9	4.9
70	0	0
71	4.9	4.9
72	0	4.9
73	3.1	3.1
74	3.1	3.1
75	5.0	0
76	0	0
77	0	0
78	5.0	5.0
79	5.0	0
80	5.0	5.0

MODE PIN NO.	REC	PLAY
81	5.0	5.0
82	5.0	5.0
83	5.0	5.0
84	0	0
85	0	0
86	0	0
87	0	5.0
88	0	5.0
89	5.0	5.0
90	0	5.0
91	0	0
92	0	0
93	0	0
94	0	0
95	0	0
96	0	0
97	0	0
98	0	0
99	0	0
100	5.0	5.0
IC3401		
1	0.6	0
2	-	-
3	-	-
4	4.9	4.9
5	4.9	4.9
6	0	0
7	0	0
8	0	0
9	-	-
10	0	0
11	0	0
12	4.4	4.4
13	0	0.2
14	4.4	4.4
15	-	-
16	5.0	5.0
IC3402		
1	0.5	0.3
2	5.0	5.0
3	4.2	3.1
4	4.2	3.1
5	0.4	0
6	0	0
7	0	0
8	0	0
9	4.9	4.9
10	0	0
11	0	0
12	5.0	5.0
13	0.4	0.4
14	5.0	5.0
15	5.0	5.0
16	5.0	5.0
IC3403		
1	0	0
2	0	0
3	0	0
4	5.0	5.0
5	5.0	5.0
6	5.0	5.0

MODE PIN NO.	REC	PLAY
7	0.4	0.4
8	0	0
9	0	0
10	0	0
11	0	0
12	0	0
13	0	0
14	0	0
15	0	0
16	0	0
17	0	0
18	0	0
19	0	0
20	0	0
21	0	0
22	0	0
23	5.0	5.0
24	5.0	5.0
25	5.0	5.0
26	0	0
27	0	0
28	5.0	5.0
CN3606		
1	-	-
2	0	0
3	4.6	4.6
4	5.2	5.2

< TUNER >

MODE PIN NO.	REC	PLAY
IC6080		
1	1.3	1.3
2	1.3	1.3
3	2.8	2.8
4	0	0
5	4.1	4.1
6	4.1	4.1
7	4.1	4.1
8	11.9	11.9
Q6030		
E	0.8	0.8
C	0	0
B	0	0
Q6031		
E	0	0
C	0	0
B	4.8	4.8
Q6032		
E	0	0
C	0	0
B	4.9	4.9
CN6701		
1	0	0
2	4.6	-
3	-	-
4	4.9	4.9

MODE PIN NO.	REC	PLAY
5	0	0
6	0	0
7	5.0	5.0
8	0	0
9	0	0
10	2.4	2.4

< BS TUNER >

MODE PIN NO.	REC	PLAY
Q5301		
E	22.0	22.0
C	11.4	11.4
B	22.0	22.0
Q5302		
E	0	0
C	22.0	22.0
B	0	0
Q5303		
E	5.2	5.2
C	5.7	5.7
B	5.9	5.9
Q5304		
E	10.9	10.9
C	12.2	12.2
B	11.6	11.6
Q5305		
E	12.2	12.2
C	12.2	12.2
B	2.3	2.3
Q5307		
E	0	0
C	0	0
B	4.1	4.1

< TERMINAL(MAIN) >

MODE PIN NO.	REC	PLAY
CN7501		
1	0	0
2	2.3	2.3
3	0	0
4	2.1	2.1
5	0	0
6	-	-
7	-	-
8	0	0
9	5.0	5.0
10	4.8	4.8
11	0	0
12	0	0
13	0	0

MODE PIN NO.	REC	PLAY
14	10.9	10.9
15	5.2	5.2
16	-9.3	-9.3
17	5.0	5.0
CN7502		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	2.7	2.7
8	0	0
9	2.7	2.7
10	0	0
11	1.4	1.1
12	0	0
13	0.7	0.7
14	0	0
15	2.4	2.4
16	0	0
17	0	0
CN7503		
1	0	0
2	0	0
3	0	0
4	5.0	5.0
5	5.2	5.2
6	5.2	5.2
7	0	0
8	0	0
9	0	0
10	0	0
11	0	0
12	0	0
13	0	0
14	0	0
15	0	0
16	4.3	4.3
17	4.3	4.3
CN7504		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	0	0
8	0	0

< 3D SVHS(VIDEO) >

MODE PIN NO.	REC	PLAY
IC1001		
1	-	-
2	-	-

MODE PIN NO.	REC	PLAY
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-
10	-	-
11	-	-
12	-	-
13	-	-
14	-	-
15	-	-
16	-	-
17	-	-
18	-	-
19	-	-
20	-	-
21	-	-
22	-	-
23	-	-
24	-	-
25	-	-
26	-	-
27	-	-
28	-	-
29	-	-
30	-	-
31	-	-
32	-	-
33	-	-
34	-	-
35	-	-
36	-	-
37	-	-
38	-	-
39	-	-
40	-	-
41	-	-
42	-	-
43	-	-
44	-	-
45	-	-
46	-	-
47	-	-
48	-	-
49	-	-
50	-	-
51	-	-
52	-	-
53	-	-
54	-	-
55	-	-
56	-	-
IC1002		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-
10	-	-
11	-	-
12	-	-
13	-	-
14	-	-
15	-	-
16	-	-
17	-	-
18	-	-
IC1006		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-
10	-	-
11	-	-
12	-	-
13	-	-
14	-	-
15	-	-
16	-	-
17	-	-
18	-	-
19	-	-
20	-	-
IC1007		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
IC1008		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
Q1004		
E	-	-
C	-	-
B	-	-
Q1005		
E	-	-
C	-	-
B	-	-
Q1006		
E	-	-
C	-	-
B	-	-
Q1007		
E	-	-
C	-	-
B	-	-
Q1012		
E	2.4	2.4
C	4.9	4.9
B	3.0	3.0
Q1014		
E	-	-
C	-	-
B	-	-
Q1015		
E	-	-
C	-	-
B	-	-
Q1016		
E	-	-
C	-	-
B	-	-
Q1021		
E	-	-
C	-	-
B	-	-
Q1022		
E	-	-
C	-	-
B	-	-
Q1025		
E	-	-
C	-	-
B	-	-
Q1026		
E	-	-
C	-	-
B	-	-
CN1001		
1	0	0
2	2.5	-
3	4.7	4.7
4	-	-
5	4.7	4.7
6	0	0
7	0	0
8	0	0
9	0.5	0.5
10	0	0
11	0	0
12	0	0
13	5.0	5.0
14	5.0	5.0
15	0	0
16	0	0
17	0.4	0.4
18	0	0
19	3.4	3.4
20	0.4	0
21	0	0
22	2.1	2.1
23	0	0
24	2.7	2.7
25	0	0
26	2.7	2.7
27	0	0
28	0	0
29	0	0
30	0.4	0
CN1002		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	1.4	1.1
8	1.9	1.9
9	1.4	2.4
10	4.9	4.9
11	2.3	2.3
12	2.7	2.7
13	0	0
14	0	0
15	2.4	2.4
16	0	0
17	4.6	4.6
18	4.6	4.6
19	5.0	5.0
20	4.9	4.9
21	2.4	2.4
22	0	0
23	2.4	2.4
24	0	0
25	0	0
26	2.3	2.3
27	2.4	2.4
28	2.3	2.3
29	0	0
30	2.1	2.1
CN1006		
1	2.4	2.4
2	0	0
3	2.6	2.6
4	0	0
5	2.8	2.8
6	0	0

< 3D SVHS(3D/TBC) >

MODE PIN NO.	REC	PLAY
IC1401		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-
10	-	-
11	-	-
12	-	-
13	-	-
14	-	-
15	-	-
16	-	-
17	-	-
18	-	-
19	-	-
20	-	-
21	-	-
22	-	-
23	-	-
24	-	-
25	-	-
26	-	-
27	-	-
28	-	-
29	-	-
30	-	-
31	-	-
32	-	-
33	-	-
34	-	-
35	-	-
36	-	-
37	-	-
38	-	-
39	-	-
40	-	-
41	-	-
42	-	-
43	-	-
44	-	-
45	-	-
46	-	-
47	-	-
48	-	-
49	-	-
50	-	-
51	-	-
52	-	-
53	-	-
54	-	-
55	-	-
56	-	-
57	-	-
58	-	-
59	-	-
60	-	-
61	-	-
62	-	-
63	-	-
64	-	-
65	-	-
66	-	-
67	-	-
68	-	-
69	-	-
70	-	-
71	-	-
72	-	-
73	-	-
74	-	-
75	-	-
76	-	-
77	-	-
78	-	-
79	-	-
80	-	-
81	-	-
82	-	-
83	-	-
84	-	-
85	-	-
86	-	-
87	-	-
88	-	-
89	-	-
90	-	-
91	-	-
92	-	-
93	-	-
94	-	-
95	-	-
96	-	-
97	-	-
98	-	-
99	-	-
100	-	-
IC1402		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-
10	-	-
11	-	-
12	-	-
13	-	-
14	-	-
15	-	-
16	-	-
17	-	-
18	-	-
19	-	-
20	-	-
21	-	-
22	-	-
23	-	-
24	-	-
25	-	-
26	-	-
27	-	-
28	-	-
Q1401		
E	-	-
C	-	-
B	-	-
Q1402		
E	-	-
C	-	-
B	-	-
Q1403		
E	-	-
C	-	-
B	-	-
Q1404		
E	-	-
C	-	-
B	-	-
Q1405		
E	-	-
C	-	-
B	-	-
Q1406		
E	-	-
C	-	-
B	-	-
Q1407		
E	-	-
C	-	-
B	-	-
Q1408		
E	-	-
C	-	-
B	-	-
Q1409		
E	-	-
C	-	-
B	-	-
Q1410		
E	-	-
C	-	-
B	-	-
Q1411		
E	-	-
C	-	-
B	-	-
Q1412		
E	-	-
C	-	-
B	-	-
Q1413		
E	-	-
C	-	-
B	-	-
Q1414		
E	-	-
C	-	-
B	-	-
Q1416		
E	-	-
C	-	-
B	-	-
Q1417		
E	-	-
C	-	-
B	-	-
Q1418		
E	-	-
C	-	-
B	-	-

< TERMINAL >

MODE PIN NO.	REC	PLAY
IC3961		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
IC3962		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
IC7101		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-
10	-	-
11	-	-
12	-	-
13	-	-
14	-	-
15	-	-
16	-	-
17	-	-
18	-	-
19	-	-
20	-	-
21	-	-
22	-	-
23	-	-
24	-	-
IC7102		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	-4.9	-4.9
8	0	0
9	0	0
10	0	0
11	0	0
12	0	0
13	0	0
14	0	0
15	0	0
16	5.2	5.2
IC7103		
1	6.1	6.1
2	2.9	2.9
3	6.0	6.0
4	0	0
5	-	-
6	-	-
7	-	-
8	-	-
IC7104		
1	-	-
2	-	-
3	-	-
4	-	-
5	5.2	5.2
6	2.3	2.3
7	2.1	2.1
8	2.6	2.6
Q7101		
E	-	-
C	-	-
B	-	-
Q7102		
E	-	-
C	-	-
B	-	-
Q7103		
E	0.6	0.6
C	9.7	9.7
B	1.2	1.2
Q7104		
E	-	-
C	-	-
B	-	-
Q7105		
E	-	-
C	-	-
B	-	-
Q7106		
E	-	-
C	-	-
B	-	-
Q7107		
E	2.7	2.7
C	0	0
B	2.1	2.1
Q7108		
E	2.7	2.7
C	0	0
B	2.1	2.1
CN7101		
1	0	0
2	0	0
3	0	0
4	5.0	5.0
5	5.2	5.2
6	5.2	5.2
7	0	0
8	0	0
9	0	0
10	0	0
11	0	0
12	0	0
13	0	0
14	0	0
15	0	0
16	4.3	4.3
17	4.3	4.3
CN7102		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	2.7	2.7
8	0	0
9	2.7	2.7
10	0	0
11	1.4	1.1
12	0	0
13	0.7	0.7
14	0	0
15	2.4	2.4
16	0	0
17	0	0
CN7103		
1	0	0
2	2.3	2.3
3	0	0
4	2.1	2.1
5	0	0
6	-	-
7	-	-
8	0	0
9	5.0	5.0
10	4.8	4.8
11	0	0
12	0	0
13	0	0
14	10.9	10.9
15	5.2	5.2
16	-9.3	-9.3
17	5.0	5.0

< DEMOD >

MODE PIN NO.	REC	PLAY
IC6701		
1	2.5	0
2	2.5	4.8
3	5.0	0
4	0	4.9
5	0	0
6	4.9	4.9
7	0	0
8	4.9	0
9	0	5.0
10	4.9	2.5
11	0	2.5
12	4.9	4.9
13	0	0
14	0	0
15	3.5	3.5
16	2.5	2.5
17	0	0
18	2.2	2.2
19	0	0
20	0	0
21	4.8	4.8
22	0	0
23	2.3	2.3
24	2.3	2.3
25	2.3	2.3
26	4.8	4.8
27	0	0
28	4.9	4.9
29	4.5	4.5
30	4.6	4.6
31	0	0
32	4.8	4.8
33	4.8	4.8
34	0.7	0.7
35	4.8	4.8
36	0	0
37	4.8	4.8
38	2.5	2.5
39	2.5	2.5
40	2.5	2.5
41	2.5	2.5
42	4.8	4.8
43	5.0	5.0
44	0	0
Q6701		
E	1.9	1.9
C	5.0	5.0
B	2.6	2.6
CN6701		
1	0	0
2	4.6	-
3	-	-
4	4.9	4.9
5	0	0
6	0	0
7	5.0	5.0
8	0	0
9	0	0
10	2.4	2.4

< DISPLAY >

MODE PIN NO.	REC	PLAY
IC7001		
1	5.2	5.2
2	2.2	2.2
3	0	0
4	2.2	2.2
5	5.2	5.2
6	0.2	0.2
7	5.2	5.2
8	0	0
9	5.2	5.2
10	5.2	5.2
11	5.2	5.2
12	4.2	4.2
13	1.6	1.6
14	4.9	4.9
15	4.4	4.4
16	-28.0	-28.0
17	-28.0	-28.0
18	4.9	4.9
19	-27.8	-27.8
20	-27.8	-27.8
21	-	-
22	-	-
23	-	-
24	-	-
25	-	-
26	-	-
27	-	-
28	-	-
29	-	-
30	-	-
31	-	-
32	-	-
33	-	-
34	-	-
35	-	-
36	-	-
37	-	-
38	-	-
39	-	-
40	-	-
41	-	-
42	-	-
43	-	-
44	5.2	5.2
IC7002		
1	5.2	5.2
2	5.2	5.2
3	0	0
Q7001		
E	5.2	5.2
C	5.0	5.0
B	0.1	0.1
Q7002		
E	5.2	5.2
C	0	0
B	5.0	5.0
Q7003		
E	5.2	5.2
C	0	0
B	5.0	5.0
CN7001		
1	0	0
2	5.0	5.0
3	5.0	5.0
4	4.5	4.5
5	4.9	4.9
6	1.5	1.5
7	4.2	4.2
8	5.2	5.2
9	0	0
10	0	0
11	0	0
12	0	0
13	5.0	5.0
14	5.0	5.0
15	5.0	5.0
16	5.0	5.0
17	5.0	5.0
18	5.0	5.0
19	5.0	5.0
20	0.2	0.2
21	0	0
22	0	0
CN7002		
1	-15.2	-15.2
2	-28.0	-28.0
3	-19.0	-19.0
4	0	0
5	5.2	5.2
CN7003		
1	0	0
2	0	0
3	0	0
4	5.2	5.2
CN7004		
1	0	0
2	0	0
3	0	0
4	0	0
5	5.0	5.0
6	-0.2	-0.2
7	-0.3	-0.3
8	4.2	4.2
9	5.0	5.0
10	5.0	5.0
11	5.0	5.0
12	5.0	5.0
13	5.0	5.0
14	0	0
15	5.2	5.2
16	5.2	5.2
17	5.2	5.2
18	0	0
19	5.2	5.2
20	5.2	5.2
21	5.2	5.2
22	5.2	5.2
FW7001		
1	5.0	5.0
2	0	0
FW7002		
1	0	0
2	0	0
3	0	0

< REC SAFETY >

MODE PIN NO.	REC	PLAY
FW7011		
1	5.0	5.0
2	0	0

< CASS. SW >

MODE PIN NO.	REC	PLAY
FW7012		
1	0	0
2	0	0
3	0	0

< JACK >

MODE PIN NO.	REC	PLAY
CN7101		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	0	0
8	0	0
CN7102		
1	0	0
2	0	0
3	0	0
4	0	0
5	5.2	5.2
6	5.2	5.2
7	0	0
8	0	0
9	0	0
10	0	0
11	0	0
12	0	0
CN7103		
1	0	0
2	0	0
3	0	0
4	5.2	5.2

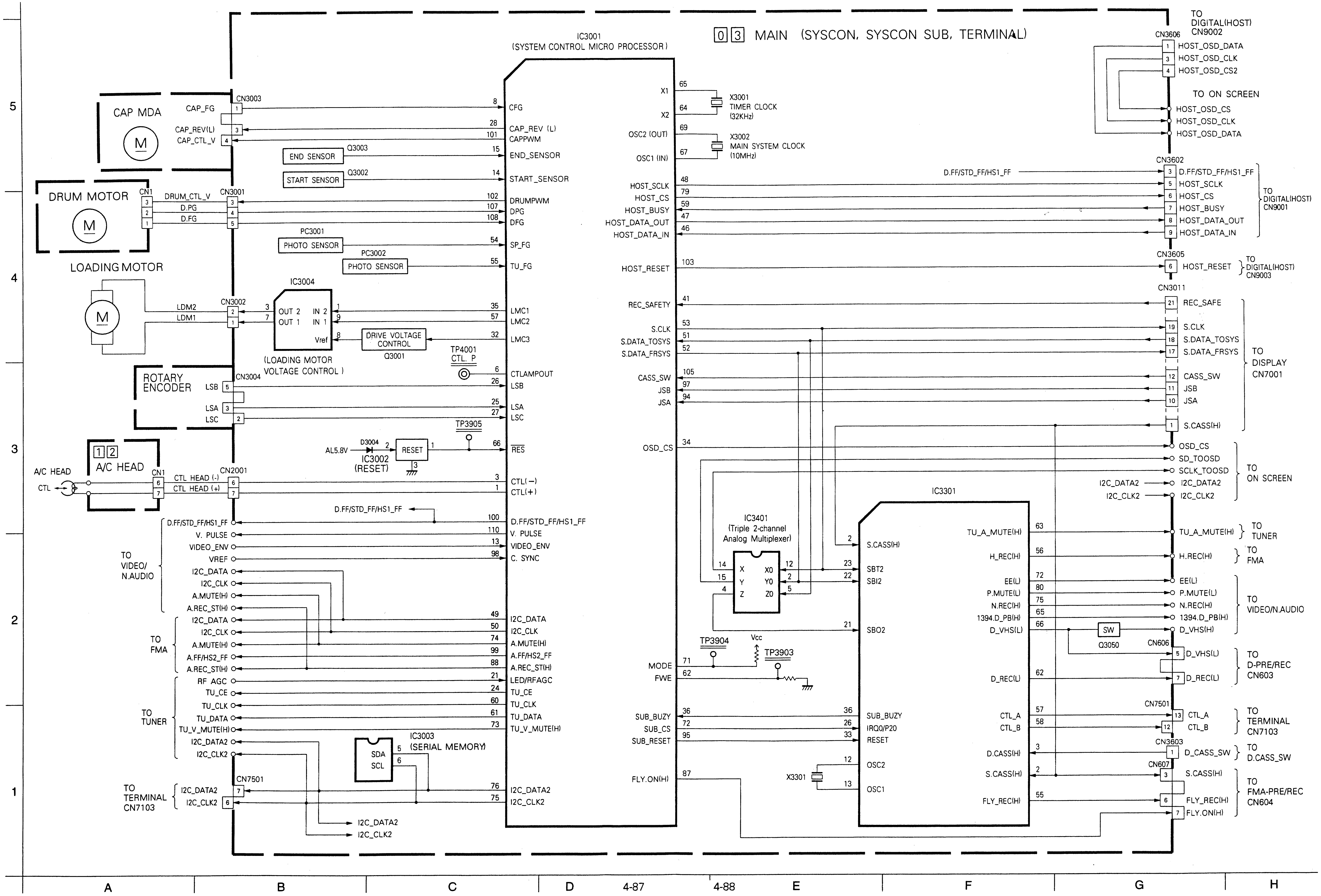
< D-PRE/REC >

MODE PIN NO.	REC	PLAY
IC601		
1	2.6	2.6
2	4.1	4.1
3	4.9	4.9
4	2.9	2.9
5	4.9	4.9
6	4.1	4.1
7	2.6	2.6
8	2.6	2.6
9	1.3	1.3
10	2.8	2.8
11	3.2	3.2
12	2.9	2.9
13	3.2	3.2
14	2.8	2.8
15	1.3	1.3
16	3.0	3.0
17	-	-
18	0	0
19	2.3	2.3
20	4.3	4.3
21	3.5	3.5
22	0	0
23	2.8	2.8
24	4.9	4.9
25	4.4	4.4
26	0	0
27	4.9	4.9
28	4.9	4.9
29	2.8	2.8
30	4.9	4.9
IC602		
1	0	0
2	0	0
3	0	0
4	0	0
5	-	-
6	-	-
7	-	-
8	-	-
Q601		
E	-	-
C	-	-
B	-	-
Q602		
E	-	-
C	-	-
B	-	-
Q603		
E	-	-
C	-	-
B	-	-
Q604		
E	-	-
C	-	-
B	-	-
Q605		
E	-	-
C	-	-
B	-	-
Q606		
E	-	-
C	-	-
B	-	-
Q607		
E	-	-
C	-	-
B	-	-
Q608		
E	-	-
C	-	-
B	-	-
Q609		
E	-	-
C	-	-
B	-	-
Q610		
E	-	-
C	-	-
B	-	-
Q611		
E	-	-
C	-	-
B	-	-
Q612		
E	-	-
C	-	-
B	-	-
Q613		
E	-	-
C	-	-
B	-	-
Q614		
E	-	-
C	-	-
B	-	-
Q615		
E	-	-
C	-	-
B	-	-
Q616		
E	-	-
C	-	-
B	-	-
Q617		
E	-	-
C	-	-
B	-	-
Q618		
E	-	-
C	-	-
B	-	-
Q619		
E	-	-
C	-	-
B	-	-
Q620		
E	-	-
C	-	-
B	-	-
Q621		
E	-	-
C	-	-
B	-	-
Q622		
E	-	-
C	-	-
B	-	-
Q623		
E	-	-
C	-	-
B	-	-
Q624		
E	-	-
C	-	-
B	-	-
Q625		
E	-	-
C	-	-
B	-	-
CN601		
1	0	0
2	0.8	0.8
CN602		
1	0	0
2	0.8	0.8
CN603		
1	0	0
2	0	0
3	0	0
4	4.9	4.9
5	4.9	4.9
6	11.9	11.9
7	4.8	4.8
8	-	-
9	5.2	0
CN605		
1	0	0
2	0	0
3	0	0
4	0	0
5	4.1	0
6	4.1	0
7	4.1	0

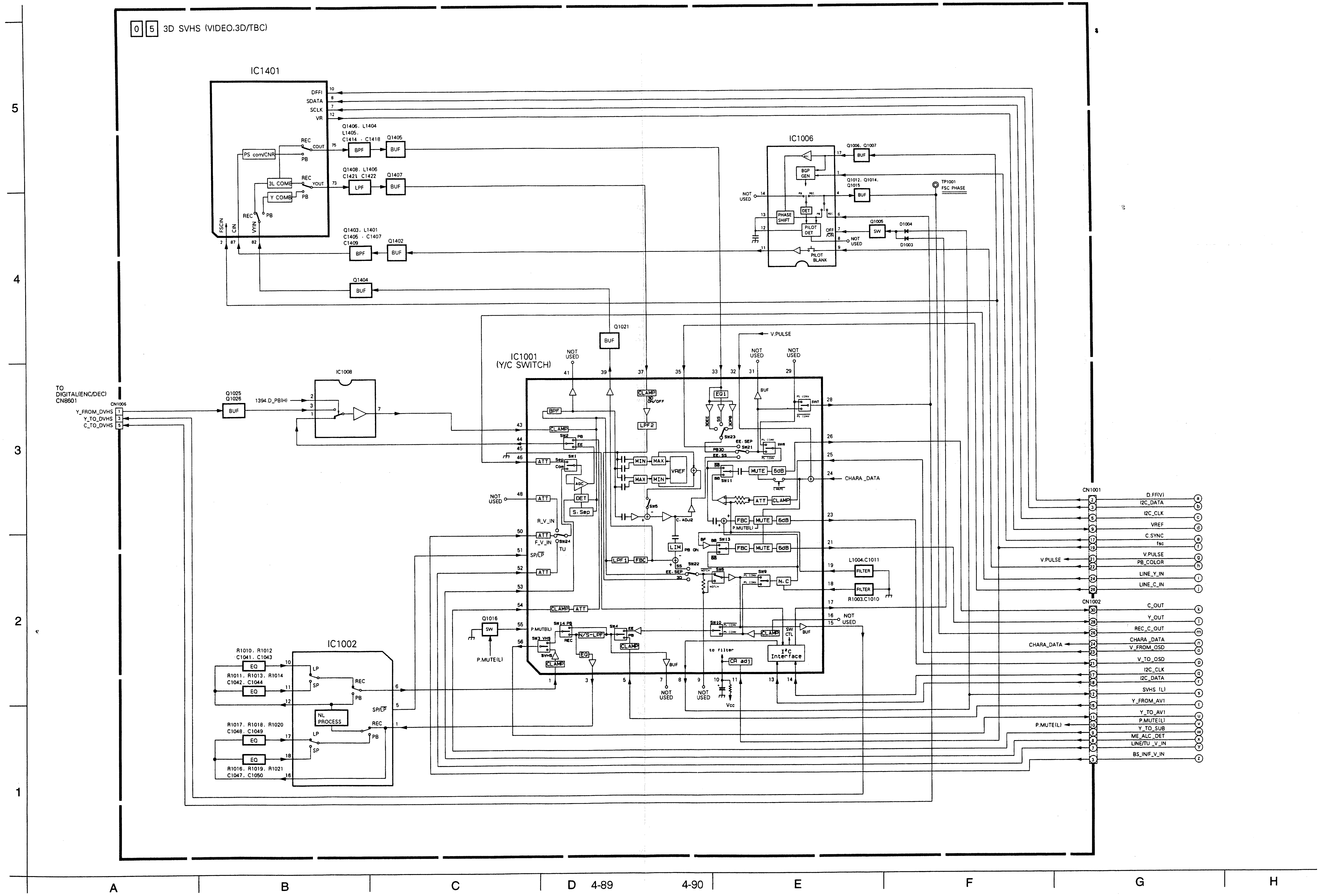
< FMA-PRE/REC >

MODE PIN NO.	REC	PLAY
IC2271		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	0.5	0
10	4.9	4.9
11	3.0	3.0
12	0	0
13	1.8	0.9
14	1.8	1.8
15	0.8	0
16	4.8	1.1
Q1701		
E	-	-
C	-	-
B	-	-
Q1702		
E	-	-
C	-	-
B	-	-
Q1703		
E	-	-
C	-	-
B	-	-
Q1704		
E	-	-
C	-	-
B	-	-
Q1705		
E	-	-
C	-	-
B	-	-
Q1706		
E	-	-
C	-	-
B	-	-
Q2271		
E	-	-
C	-	-
B	-	-
Q2272		
E	-	-
C	-	-
B	-	-
Q2273		
E	-	-
C	-	-
B	-	-
Q2277		
E	-	-
C	-	-
B	-	-
Q2278		
E	-	-
C	-	-
B	-	-
Q2279		
E	-	-
C	-	-
B	-	-
Q2280		
E	-	-
C	-	-
B	-	-
Q2281		
E	-	-
C	-	-
B	-	-
Q2282		
E	-	-
C	-	-
B	-	-
Q2283		
E	-	-
C	-	-
B	-	-
CN604		
1	0	-
2	0	0
3	0	0
4	4.9	0
5	4.8	0.4
6	0	0
7	0	0
8	0	0
9	0	0
10	1.4	0.3

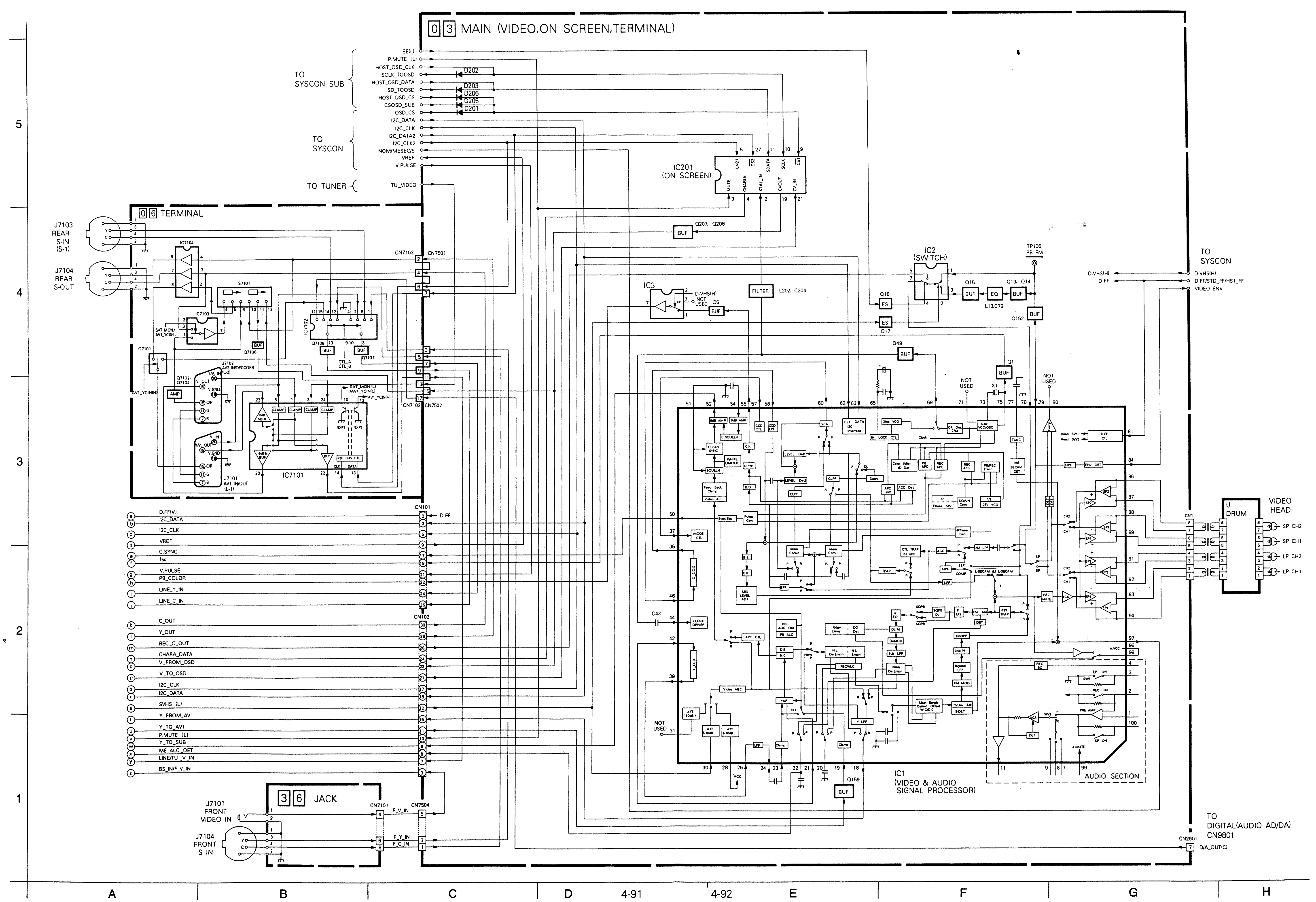
4.37 SYSTEM CONTROL BLOCK DIAGRAM


03 MAIN (SYSCON, SYSCON SUB, TERMINAL)
IC3001
(SYSTEM CONTROL MICRO PROCESSOR)
CAP MDA
CAP_FG
CAP_REV(L)
CAP_CTL_V
CN3003
CFG
CAP_REV (L)
CAPPWM
END SENSOR
Q3003
END_SENSOR
START SENSOR
Q3002
START_SENSOR
DRUM MOTOR
CN1
DRUM_CTL_V
D.PG
D.FG
CN3001
DRUMPWM
DPG
DFG
PC3001
PHOTO SENSOR
SP_FG
PC3002
PHOTO SENSOR
TU_FG
LOADING MOTOR
IC3004
LDM2
LDM1
CN3002
OUT 2
OUT 1
IN 2
IN 1
Vref
LMC1
LMC2
DRIVE VOLTAGE CONTROL
Q3001
LMC3
(LOADING MOTOR VOLTAGE CONTROL)
TP4001
CTL. P
CTLAMPOUT
ROTARY ENCODER
CN3004
LSB
LSA
LSC
TP3905
D3004
AL5.8V
RESET
IC3002
(RESET)
RES
12
A/C HEAD
A/C HEAD
CTL
CTL HEAD (-)
CTL HEAD (+)
CN2001
CTL(−)
CTL(+)
D.FF/STD_FF/HS1_FF
TO VIDEO/ N.AUDIO
V. PULSE
VIDEO_ENV
VREF
I2C_DATA
I2C_CLK
A.MUTE(H)
A.REC_ST(H)
TO FMA
A.FF/HS2_FF
TO TUNER
RF AGC
TU_CE
TU_CLK
TU_DATA
TU_V_MUTE(H)
I2C_DATA2
I2C_CLK2
C. SYNC
LED/RFAGC
IC3003
(SERIAL MEMORY)
SDA
SCL
TO TERMINAL CN7103
CN7501
X1
X2
X3001
TIMER CLOCK
(32KHz)
OSC2 (OUT)
OSC1 (IN)
X3002
MAIN SYSTEM CLOCK
(10MHz)
HOST_SCLK
HOST_CS
HOST_BUSY
HOST_DATA_OUT
HOST_DATA_IN
HOST_RESET
REC_SAFETY
S.CLK
S.DATA_TOSYS
S.DATA_FRSYS
CASS_SW
JSB
JSA
OSD_CS
MODE
FWE
TP3904
Vcc
TP3903
SUB_BUZY
SUB_CS
SUB_RESET
FLY.ON(H)
IC3401
(Triple 2-channel Analog Multiplexer)
X
Y
Z
X0
Y0
Z0
IC3301
S.CASS(H)
SBT2
SBI2
SBO2
IRQ0/P20
OSC2
OSC1
X3301
TU_A_MUTE(H)
H_REC(H)
EE(L)
P.MUTE(L)
N.REC(H)
1394.D_PB(H)
D_VHS(L)
D_REC(L)
CTL_A
CTL_B
D.CASS(H)
FLY_REC(H)
TO DIGITAL(HOST) CN9002
CN3606
HOST_OSD_DATA
HOST_OSD_CLK
HOST_OSD_CS2
TO ON SCREEN
HOST_OSD_CS
CN3602
TO DIGITAL(HOST) CN9001
CN3605
TO DIGITAL(HOST) CN9003
CN3011
REC_SAFE
TO DISPLAY CN7001
S.CASS(H)
SD_TOOSD
SCLK_TOOSD
TO ON SCREEN
TO TUNER
H.REC(H)
TO FMA
D_VHS(H)
TO VIDEO/N.AUDIO
SW
Q3050
CN606
TO D-PRE/REC CN603
TO TERMINAL CN7103
CN3603
D_CASS_SW
TO D.CASS_SW
CN607
TO FMA-PRE/REC CN604
FLY_REC(H)
FLY.ON(H)
5
4
3
2
1
A
B
C
D
E
F
G
H

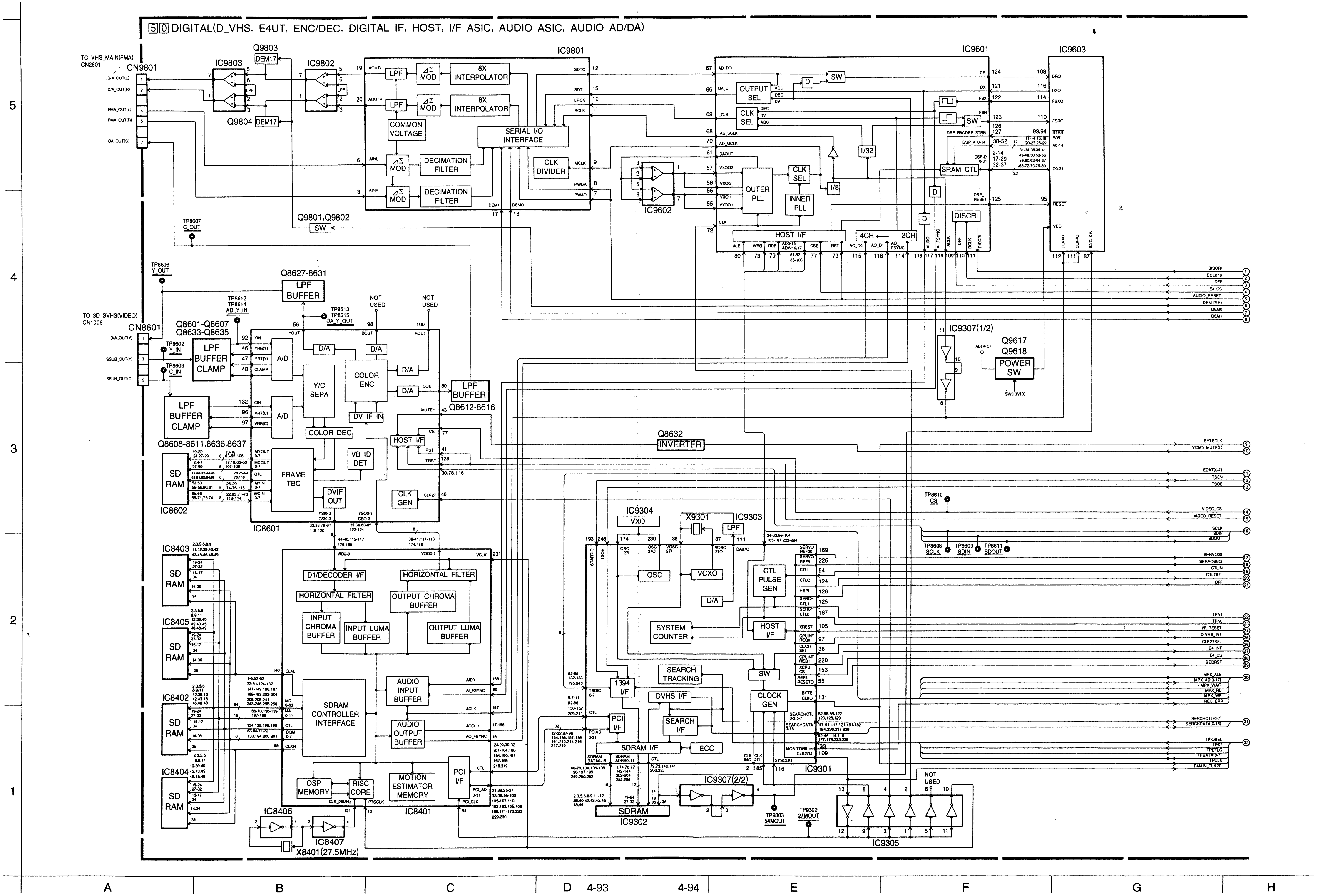
4.38 VIDEO BLOCK DIAGRAM (VHS)

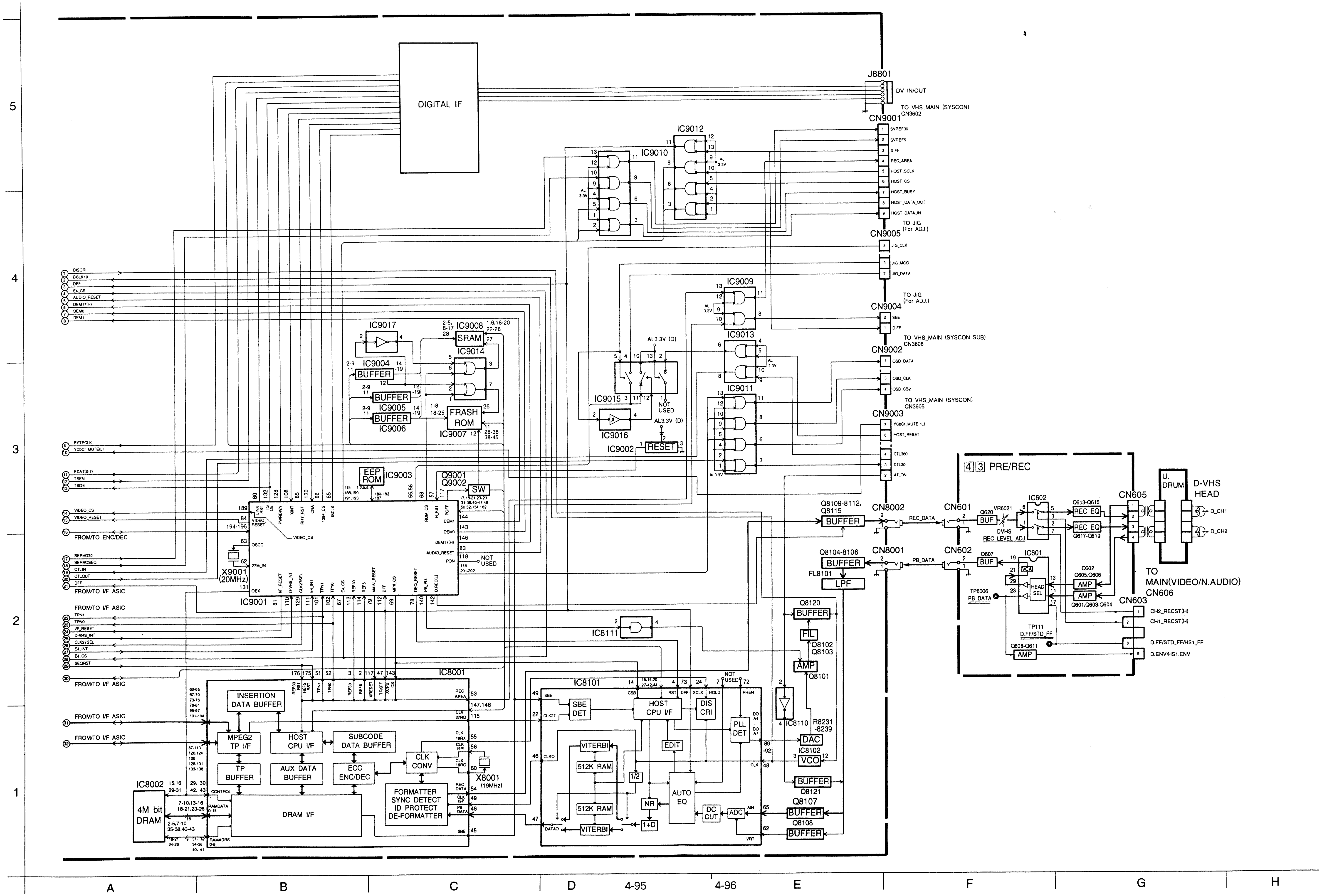

0 5 3D SVHS (VIDEO.3D/TBC)
IC1401
DFFI
SDATA
SCLK
VR
PS com/CNR
3L COMB
Y COMB
REC
PB
COUT
YOUT
FSCIN
CIN
VYIN
Q1406. L1404 L1405. C1414 - C1418
Q1405
BPF
BUF
Q1408. L1406 C1421 C1422
Q1407
LPF
Q1403. L1401 C1405 - C1407 C1409
Q1402
Q1404
IC1006
Q1006. Q1007
BGP GEN
PHASE SHIFT
DET
PILOT DET
PILOT BLANK
Q1012. Q1014. Q1015
Q1005
SW
D1004
D1003
TP1001 FSC PHASE
NOT USED
OFF /ON
Q1021
V.PULSE
IC1001 (Y/C SWITCH)
CLAMP
ON/OFF
LPF2
EQ1
BUF
SW7
SW23
EE. SEP
SW21
PB3D
EE. SS
SW8
MIN
MAX
VREF
BB
SW11
MUTE
6dB
ATT
CHARA _DATA
SW5
C. ADJ2
FBC
P.MUTE(L)
SW13
LIM
PB ON
LPF1
SS
SW22
EE. SEP
3D
SW6
SW9
NOTCH
N. C
FILTER
L1004.C1011
R1003.C1010
SW1
Sep
Com
AGC
DET
S. Sep
SW2
EE
R_V_IN
F_V_IN
SW24
TU
SP/LP
CLAMP
Q1016
P.MUTE(L)
SW14 PB
N/S-LPF
SW3 VHS
SW4
SW10
SW CTL
I²C Interface
to filter
CR adj
Vcc
TO DIGITAL(ENC/DEC) CN8601
CN1006
Y_FROM_DVHS
Y_TO_DVHS
C_TO_DVHS
Q1025 Q1026
1394.D_PB(H)
IC1008
IC1002
R1010. R1012 C1041. C1043
EQ
LP
SP
R1011. R1013. R1014 C1042. C1044
NL PROCESS
SP/LP
R1017. R1018. R1020 C1048. C1049
R1016. R1019. R1021 C1047. C1050
CN1001
D.FF(V)
I2C_DATA
I2C_CLK
VREF
C.SYNC
fsc
V.PULSE
PB_COLOR
LINE_Y_IN
LINE_C_IN
CN1002
C_OUT
Y_OUT
REC_C_OUT
CHARA _DATA
V_FROM_OSD
V_TO_OSD
I2C_CLK
I2C_DATA
SVHS (L)
Y_FROM_AV1
Y_TO_AV1
P.MUTE(L)
Y_TO_SUB
ME_ALC_DET
LINE/TU _V_IN
BS_IN/F_V_IN
A
B
C
D
E
F
G
H
1
2
3
4
5

MC-Service

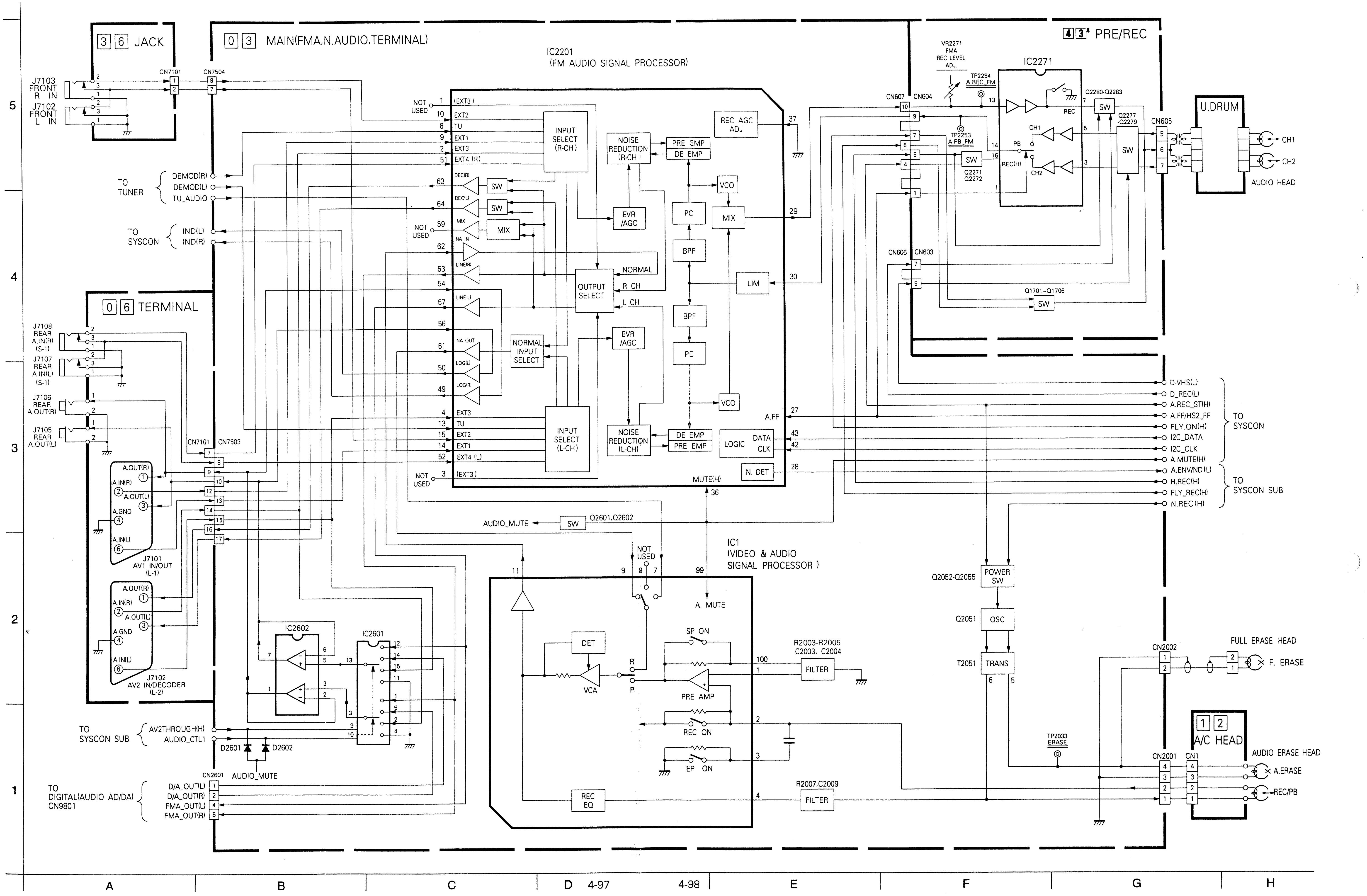

03 MAIN (VIDEO,ON SCREEN,TERMINAL)
TO SYSCON SUB
EE(L)
P.MUTE (L)
HOST_OSD_CLK
SCLK_TOOSD
HOST_OSD_DATA
SD_TOOSD
HOST_OSD_CS
CSOSD_SUB
D202
D203
D206
D205
D201
TO SYSCON
OSD_CS
I2C_DATA
I2C_CLK
I2C_DATA2
I2C_CLK2
NOM/MESEC/S
VREF
V.PULSE
TO TUNER
TU_VIDEO
IC201 (ON SCREEN)
LN21
CS2
SDATA
SCLK
CS1
MUTE
CHABLK
XTAL_IN
CVOUT
CV_IN
Q207, Q208
BUF
06 TERMINAL
J7103 REAR S-IN (S-1)
J7104 REAR S-OUT
IC7104
IC7103
S7101
IC7102
SAT_MON/AV1_YCIN(L)
Q7101
Q7106
Q7108
Q7107
CTL_A
CTL_B
J7102 AV2 IN/DECODER (L-2)
Q7102-Q7104
AMP
AV1_YCIN(H)
V_OUT
V GND
C/R
G
B
V_IN
V/_OUT
J7101 AV1 IN/OUT (L-1)
IC7101
CLAMP
6dB AMP &BUF
6dB & BUF
I2C BUS CTL
CLK
DATA
EXP1
EXP2
SAT_MON (L) /AV1_YCIN(L)
AV1_YCIN(H)
CN7103
CN7501
CN7102
CN7502
IC3
D-VHS(H)
NOT USED
Q6
FILTER
L202, C204
IC2 (SWITCH)
Q16
Q17
ES
Q15
EQ
Q13, Q14
L13,C79
Q152
TP106 PB FM
TO SYSCON
D-VHS(H)
D.FF
D.FF/STD_FF/HS1_FF
VIDEO_ENV
Q49
Q1
X1
NOT USED
IC1 (VIDEO & AUDIO SIGNAL PROCESSOR)
6dB AMP
C.SQUELH
CLEAR SYNC
WHITE LIMITER
SQUELH
Feed Back Clamp
Video ALC
Sync Sep
Pulse Gen
MODE CTL
C_CCD
CLOCK DRIVER
Y_CCD
ATT (-10dB)
Video AGC
APT CTL
D.E
N.C
N.L De Emph
N.L Emph
FBC/ALC
YNR
DO
Y LPF
Clamp
LPF
VCA
CLK DATA I2C Interface
2fsc VCO
fH LOCK CTL
CR Det 2fsc
X-tal VCO/OSC
Color Killer ID Det
PB APC
REC APC
PB/REC Discri
ME SECAM DET
TANC
Head SW1
Head SW2
D.FF CTL
HPF
ENV DET
ACC Det
APC SW
1/2 Phase SW
DOWN Conv
1/2 2FL VCO
4Phase Gen
Main Conv2
Main Conv1
B.E
C.E
MIX LEVEL ADJ
BPF
CTL TRAP fH HPF
TRAP
ACC
FM LPF
SEP
COMP
L-SECAM (L)
L-SECAM
REC MUTE
SQPB
P EQ
FM AGC
829 TRAP
DET
Edge Delay
DO Det
DLIM
DeMOD
Sub LPF
Main De Emph
Main Emph Carrier Offset W.C/D.C
fo/Dev Adj
S-DET
FM MOD
1MHPF
7MLPF
Ingrated LPF
REC AGC Det
PB ALC
A.VCC
REC EQ
EP ON
SW1
REC ON
PRE AMP
SW2
SP ON
A.MUTE
AUDIO SECTION
CH2
CH1
SP
EP
SP2
SP1
EP2
EP1
C43
Vcc
Q159
CN1
U. DRUM
VIDEO HEAD
SP CH2
SP CH1
LP CH2
LP CH1
CN101
D.FF(V)
I2C_DATA
I2C_CLK
VREF
C.SYNC
fsc
V.PULSE
PB_COLOR
LINE_Y_IN
LINE_C_IN
D.FF
CN102
C_OUT
Y_OUT
REC_C_OUT
CHARA_DATA
V_FROM_OSD
V_TO_OSD
I2C_CLK
I2C_DATA
SVHS (L)
Y_FROM_AV1
Y_TO_AV1
P.MUTE (L)
Y_TO_SUB
ME_ALC_DET
LINE/TU_V_IN
BS_IN/F_V_IN
36 JACK
J7101 FRONT VIDEO IN
J7104 FRONT S IN
CN7101
CN7504
F_V_IN
F_Y_IN
F_C_IN
TO DIGITAL(AUDIO AD/DA) CN9801
CN2601
D/A_OUT(C)
A
B
C
D
E
F
G
H
1
2
3
4
5

4.39 VIDEO BLOCK DIAGRAM(D-VHS)


50 DIGITAL(D_VHS, E4UT, ENC/DEC, DIGITAL IF, HOST, I/F ASIC, AUDIO ASIC, AUDIO AD/DA)
TO VHS_MAIN(FMA) CN2601
CN9801
D/A_OUT(L)
D/A_OUT(R)
FMA_OUT(L)
FMA_OUT(R)
DA_OUT(C)
IC9803
Q9803
DEM17
Q9804
IC9802
IC9801
LPF
ΔΣ MOD
8X INTERPOLATOR
COMMON VOLTAGE
SERIAL I/O INTERFACE
DECIMATION FILTER
CLK DIVIDER
Q9801,Q9802
SW
TP8607 C_OUT
IC9601
OUTPUT SEL
CLK SEL
D
1/32
OUTER PLL
INNER PLL
1/8
IC9602
HOST I/F
4CH ← 2CH
DISCRI
SRAM CTL
IC9603
TP8606 Y_OUT
Q8627-8631
LPF BUFFER
TO 3D SVHS(VIDEO) CN1006
CN8601
TP8612 TP8614 AD_Y_IN
TP8613 TP8615 DA_Y_OUT
NOT USED
Q8601-Q8607 Q8633-Q8635
TP8602 Y_IN
TP8603 C_IN
LPF BUFFER CLAMP
A/D
D/A
Y/C SEPA
COLOR ENC
DV IF IN
COLOR DEC
HOST I/F
VB ID DET
FRAME TBC
DVIF OUT
CLK GEN
Q8612-8616
Q8608-8611,8636,8637
SD RAM
IC8602
IC8601
IC9307(1/2)
Q9617 Q9618
POWER SW
SW3.3V(D)
Q8632 INVERTER
DISCRI
DCLK19
DFF
E4_CS
AUDIO_RESET
DEM17(H)
DEM0
DEM1
BYTECLK
YCbCr MUTE(L)
EDAT(0-7)
TSEN
TSOE
TP8610 CS
VIDEO_CS
VIDEO_RESET
SCLK
SDIN
SDOUT
TP8608 SCLK
TP8609 SDIN
TP8611 SDOUT
SERVO30
SERVOSEQ
CTLIN
CTLOUT
DFF
TPN1
TPN0
I/F_RESET
D-VHS_INT
CLK27SEL
E4_INT
E4_CS
SEGRST
MPX_ALE
MPX_AD(0-17)
MPX_WAIT
MPX_RD
MPX_WR
REC_ERR
SERCHCTL(0-7)
SERCHDATA(0-15)
TPIOSEL
TPST
TPEFLG
TPDATA(0-7)
TPCLK
DMAIN_CLK27
IC8403
IC8405
IC8402
IC8404
D1/DECODER I/F
HORIZONTAL FILTER
OUTPUT CHROMA BUFFER
INPUT CHROMA BUFFER
INPUT LUMA BUFFER
OUTPUT LUMA BUFFER
SDRAM CONTROLLER INTERFACE
AUDIO INPUT BUFFER
AUDIO OUTPUT BUFFER
DSP MEMORY
RISC CORE
MOTION ESTIMATOR MEMORY
PCI I/F
IC8401
IC8406
IC8407
X8401(27.5MHz)
IC9304
VXO
X9301
IC9303
OSC
VCXO
D/A
CTL PULSE GEN
SYSTEM COUNTER
HOST I/F
SEARCH TRACKING
1394 I/F
DVHS I/F
SEARCH I/F
SW
CLOCK GEN
PCI I/F
SDRAM I/F
ECC
IC9301
IC9307(2/2)
SDRAM
IC9302
TP9303 54MOUT
TP9302 27MOUT
IC9305
5
4
3
2
1
A
B
C
D
E
F
G
H


DIGITAL IF
J8801
DV IN/OUT
TO VHS_MAIN (SYSCON) CN3602
CN9001
SVREF30
SVREF5
D.FF
REC_AREA
HOST_SCLK
HOST_CS
HOST_BUSY
HOST_DATA_OUT
HOST_DATA_IN
TO JIG (For ADJ.)
CN9005
JIG_CLK
JIG_MOD
JIG_DATA
CN9004
SBE
D.FF
TO VHS_MAIN (SYSCON SUB) CN3606
CN9002
OSD_DATA
OSD_CLK
OSD_CS2
TO VHS_MAIN (SYSCON) CN3605
CN9003
YCbCr_MUTE (L)
HOST_RESET
CTL360
CTL30
AT_ON
IC9012
IC9010
IC9009
IC9013
IC9011
IC9015
IC9016
IC9002
RESET
AL3.3V (D)
NOT USED
IC9017
IC9008
SRAM
IC9014
IC9004
BUFFER
IC9005
IC9006
FRASH ROM
IC9007
EEP ROM
IC9003
Q9001
Q9002
SW
IC9001
X9001 (20MHz)
VIDEO_CS
DISCRI
DCLK19
DFF
E4_CS
AUDIO_RESET
DEM17(H)
DEM0
DEM1
BYTECLK
YCbCr MUTE(L)
EDAT(0-7)
TSEN
TSOE
VIDEO_CS
VIDEO_RESET
FROM/TO ENC/DEC
SERVO30
SERVOSEQ
CTLIN
CTLOUT
DFF
FROM/TO I/F ASIC
TPN1
TPN0
I/F_RESET
D-VHS_INT
CLK27SEL
E4_INT
E4_CS
SEQRST
FROM/TO I/F ASIC
FROM/TO I/F ASIC
FROM/TO I/F ASIC
IC8002
4M bit DRAM
IC8001
INSERTION DATA BUFFER
MPEG2 TP I/F
HOST CPU I/F
SUBCODE DATA BUFFER
TP BUFFER
AUX DATA BUFFER
ECC ENC/DEC
CLK CONV
X8001 (19MHz)
DRAM I/F
FORMATTER SYNC DETECT ID PROTECT DE-FORMATTER
IC8111
IC8101
SBE DET
HOST CPU I/F
DIS CRI
PLL DET
EDIT
VITERBI
512K RAM
512K RAM
VITERBI
1/2
NR
1+D
AUTO EQ
DC CUT
ADC
IC8110
DAC
IC8102
VCO
R8231 -8239
Q8120
BUFFER
FIL
Q8102 Q8103
AMP
Q8101
BUFFER
Q8121
Q8107
BUFFER
Q8108
BUFFER
Q8109-8112, Q8115
BUFFER
CN8002
REC_DATA
Q8104-8106
BUFFER
CN8001
FL8101
LPF
PB_DATA
4 3 PRE/REC
CN601
Q620
BUF
VR6021
DVHS REC LEVEL ADJ.
IC602
Q613-Q615
REC EQ
REC EQ
Q617-Q619
CN602
Q607
BUF
IC601
VCA
HEAD SEL
TP6006 PB DATA
Q602 Q605,Q606
AMP
AMP
Q601,Q603,Q604
TP111 D.FF/STD_FF
Q608-Q611
AMP
CN605
U. DRUM
D-VHS HEAD
D_CH1
D_CH2
TO MAIN(VIDEO/N.AUDIO) CN606
CN603
CH2_RECST(H)
CH1_RECST(H)
D.FF/STD_FF/HS1_FF
D.ENV/HS1.ENV

4.40 AUDIO BLOCK DIAGRAM



3 6 JACK
J7103 FRONT R IN
J7102 FRONT L IN
CN7101
CN7504
0 3 MAIN(FMA,N.AUDIO,TERMINAL)
IC2201
(FM AUDIO SIGNAL PROCESSOR)
NOT USED
(EXT3)
EXT2
TU
EXT1
EXT3
EXT4 (R)
INPUT SELECT (R-CH)
NOISE REDUCTION (R-CH)
PRE EMP
DE EMP
REC AGC ADJ
TO TUNER
DEMOD(R)
DEMOD(L)
TU_AUDIO
DEC(R)
DEC(L)
SW
MIX
NA IN
LINE(R)
LINE(L)
EVR /AGC
PC
VCO
BPF
LIM
OUTPUT SELECT
NORMAL
R CH
L CH
TO SYSCON
IND(L)
IND(R)
NA OUT
LOG(L)
LOG(R)
NORMAL INPUT SELECT
INPUT SELECT (L-CH)
NOISE REDUCTION (L-CH)
EXT4 (L)
LOGIC
DATA
CLK
A.FF
N. DET
MUTE(H)
0 6 TERMINAL
J7108 REAR A.IN(R) (S-1)
J7107 REAR A.IN(L) (S-1)
J7106 REAR A.OUT(R)
J7105 REAR A.OUT(L)
CN7101
CN7503
A.OUT(R)
A.IN(R)
A.OUT(L)
A.GND
A.IN(L)
J7101 AV1 IN/OUT (L-1)
J7102 AV2 IN/DECODER (L-2)
AUDIO_MUTE
Q2601,Q2602
IC1
(VIDEO & AUDIO SIGNAL PROCESSOR)
NOT USED
A. MUTE
DET
VCA
SP ON
PRE AMP
REC ON
EP ON
REC EQ
R2003-R2005
C2003, C2004
FILTER
R2007,C2009
IC2602
IC2601
TO SYSCON SUB
AV2THROUGH(H)
AUDIO_CTL1
D2601
D2602
AUDIO_MUTE
CN2601
TO DIGITAL(AUDIO AD/DA) CN9801
D/A_OUT(L)
D/A_OUT(R)
FMA_OUT(L)
FMA_OUT(R)
4 3 PRE/REC
VR2271 FMA REC LEVEL ADJ.
TP2254 A.REC_FM
TP2253 A.PB_FM
IC2271
CN607
CN604
REC
CH1
PB
REC(H)
CH2
Q2271 Q2272
Q2280-Q2283
Q2277 -Q2279
CN605
U.DRUM
CH1
CH2
AUDIO HEAD
CN606
CN603
Q1701-Q1706
D-VHS(L)
D_REC(L)
A.REC_ST(H)
A.FF/HS2_FF
FLY.ON(H)
I2C_DATA
I2C_CLK
A.MUTE(H)
TO SYSCON
A.ENV/ND(L)
H.REC(H)
FLY_REC(H)
N.REC (H)
TO SYSCON SUB
Q2052-Q2055
POWER SW
Q2051
OSC
T2051
TRANS
CN2002
FULL ERASE HEAD
F. ERASE
TP2033 ERASE
1 2 A/C HEAD
CN2001
CN1
AUDIO ERASE HEAD
A.ERASE
REC/PB
5
4
3
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1
A
B
C
D
E
F
G
H

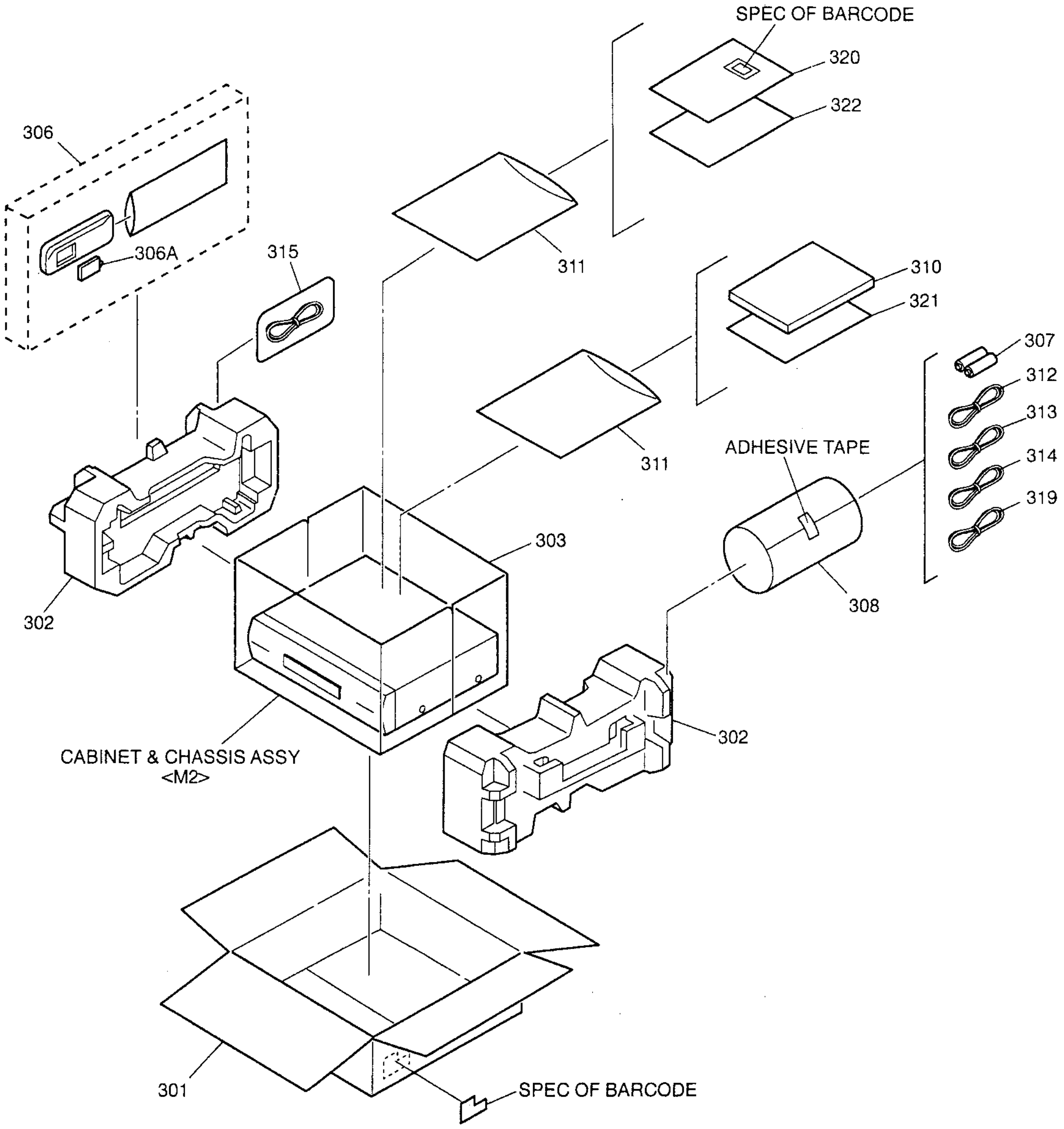
SECTION 5
PARTS LIST

SAFETY PRECAUTION

Parts identified by the ⚠ symbol are critical for safety. Replace only with specified part numbers.

5.1 PACKING AND ACCESSORY ASSEMBLY <M1>

The instruction manual to be provided with this product will differ according to the destination.


SPEC OF BARCODE
320
322
306
306A
315
311
310
321
307
312
313
314
319
311
ADHESIVE TAPE
303
308
302
302
CABINET & CHASSIS ASSY
<M2>
301
SPEC OF BARCODE

✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻

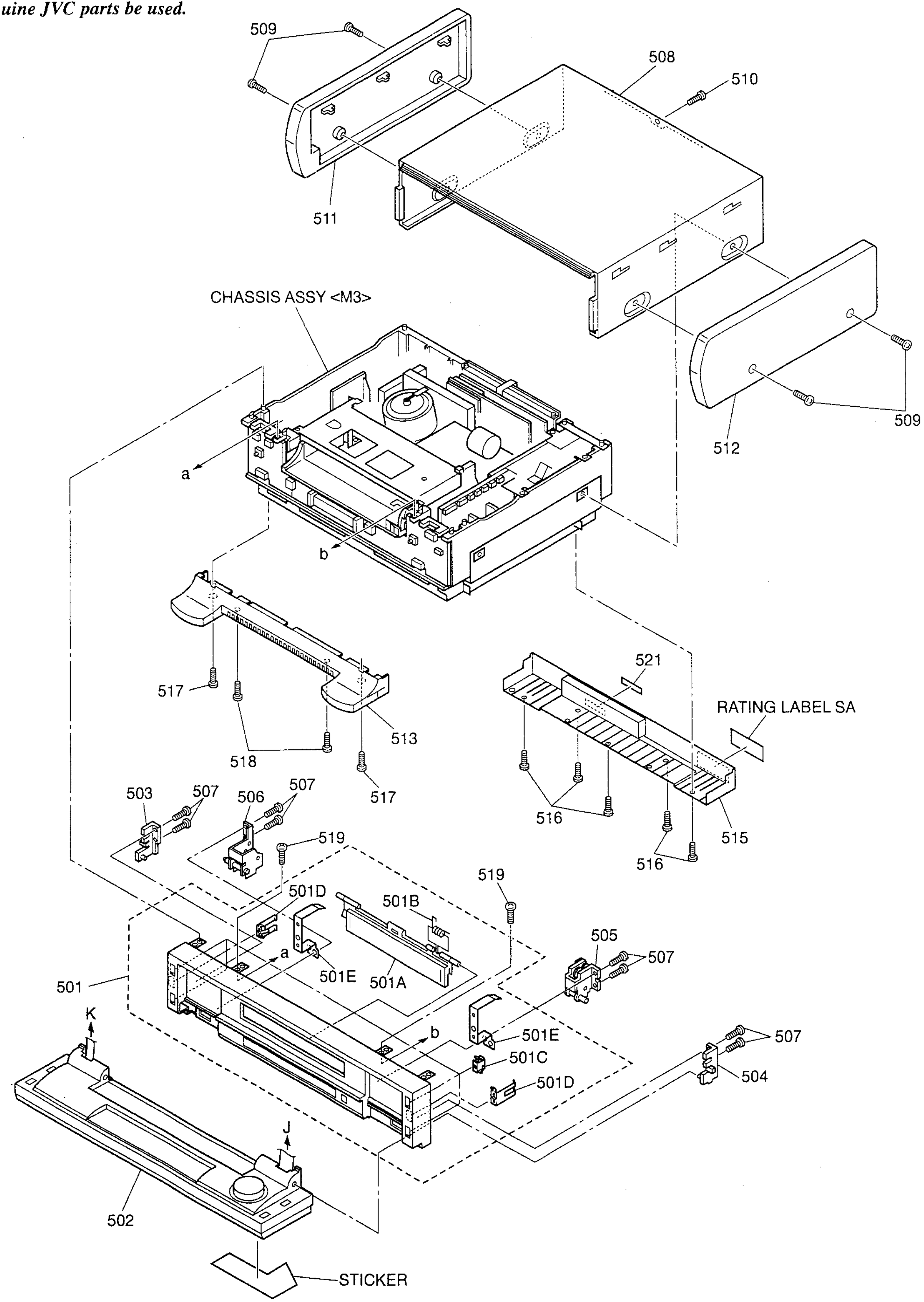
PACKING AND ACCESSORY ASSEMBLY <M1>

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION
	301	LP30636-003B	PACKING CASE
	302	LP30631-001C	CUSHION ASSY
	303	PQM30021-96	POLY BAG
	306	LP20667-004B	REMOTE CONTROLLER
	306A	LP40225-004A	COVER(BATTERY)
	307	–	BATTERY,X2("AA"TYPE)
	308	QPC02202215P	POLY BAG
⚠	310	LPT0307-001A	INST.BOOK(EN)
	311	QPC02503515P	POLY BAG
	312	PEAC0300-02	RF CABLE
	313	QAM0246-002	S CABLE
⚠	314	QMP51H0-183	POWER CORD
	315	QAM0020-001	21pin SCART(PERI) CABLE
	319	QAM0171-002	DV CABLE
	320	BT-54008-2	GUARANTY CARD
	321	LP20790-001A	QUESTIONAIRE CARD
	322	LPT0300-008B	SHEET(ATTENSION)

5.2 CABINET ASSEMBLY <M2>

BEWARE OF BOGUS PARTS

Parts that do not meet specifications may cause trouble in regard to safety and performance. We recommend that genuine JVC parts be used.



509
508
510
511
CHASSIS ASSY <M3>
509
512
a
b
521
RATING LABEL SA
517
518
513
517
516
515
516
503
507
506
507
519
519
501D
501B
505
507
a
501E
501A
501
K
b
501E
501C
501D
507
504
J
502
STICKER

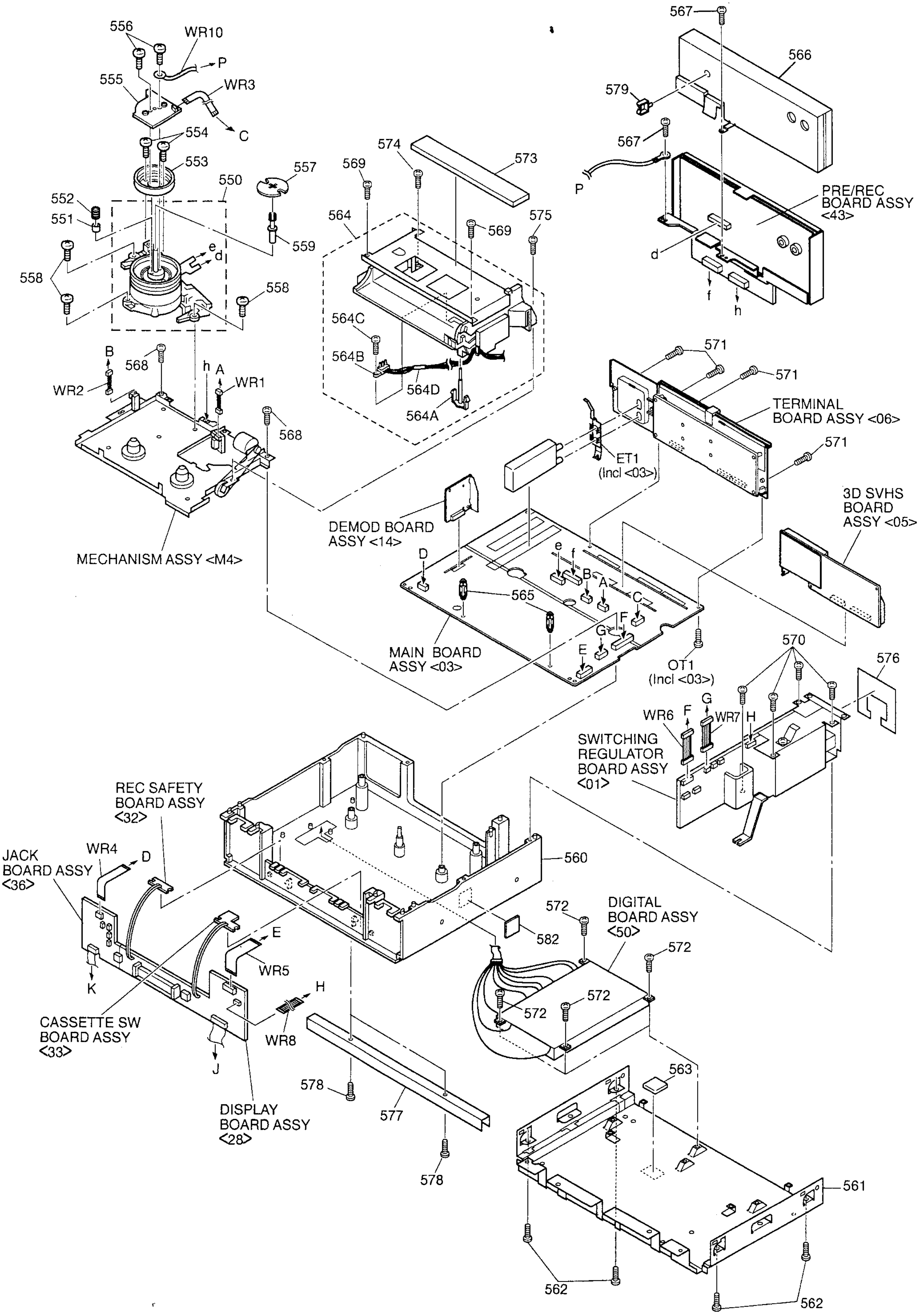
****

CABINET ASSEMBLY <M2>

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION
⚠	501	PQ11810H-18	FRONT PANEL ASSY
	501A	PQ21826-6-8	CASSETTE DOOR
	501B	PQ46510	TORSION SPRING
	501C	PEME0879	MAGNET ASSY,X4
	501D	PQ34788	EARTH PLATE,X2
	501E	PQ46642	EARTH PLATE,X2
	502	LP10287-004B	DOOR ASSY
	503	PQ46483A	SHAFT ASSY(L)
	504	PQ46484A	SHAFT ASSY(R)
	505	PEME0922-01-02	DAMPER UNIT ASSY
	506	PEME0967-01-01	SHAFT ASSY
	507	QYTDSF2606Z	SCREW,X8
⚠	508	PQ11781-7	TOP COVER
	509	QYSDSF3016R	SCREW,X4 TOP COVER(SIDE)
	510	QYTDSF3010R	SCREW,TOP COVER(REAR)
	511	LP20841-001B	SIDE PANEL ASSY(L)
	512	LP20842-001B	SIDE PANEL ASSY(R)
	513	PQ21880C	FOOT ASSY
	515	LP20839-001B	COVER ASSY,TERMINAL
	516	QYTDST3006Z	SCREW,X5 COVER,TERMINAL
	517	QYTDSF3010Z	SCREW,X2 FOOT
	518	QYTDST3006Z	SCREW,X2 FOOT
	519	QYTDSF3010Z	SCREW,X2 FRONT
	521	LP30002-084A	SPACER,COVER(TERMINAL)

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION

5.3 CHASSIS ASSEMBLY <M3>



556
WR10
P
555
WR3
C
554
553
550
557
552
551
559
e
d
558
558
B
568
h
A
WR2
WR1
568
MECHANISM ASSY <M4>
574
573
569
564
569
575
564C
564B
564D
564A
567
566
579
567
P
PRE/REC
BOARD ASSY
<43>
d
f
h
571
571
TERMINAL
BOARD ASSY <06>
571
ET1
(Incl <03>)
3D SVHS
BOARD
ASSY <05>
DEMOD BOARD
ASSY <14>
D
e
f
B
A
C
565
F
G
E
MAIN BOARD
ASSY <03>
OT1
(Incl <03>)
570
576
WR6
F
G
WR7
H
SWITCHING
REGULATOR
BOARD ASSY
<01>
REC SAFETY
BOARD ASSY
<32>
JACK
BOARD ASSY
<36>
WR4
D
560
E
WR5
K
H
WR8
CASSETTE SW
BOARD ASSY
<33>
J
DISPLAY
BOARD ASSY
<28>
582
572
DIGITAL
BOARD ASSY
<50>
572
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562

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION

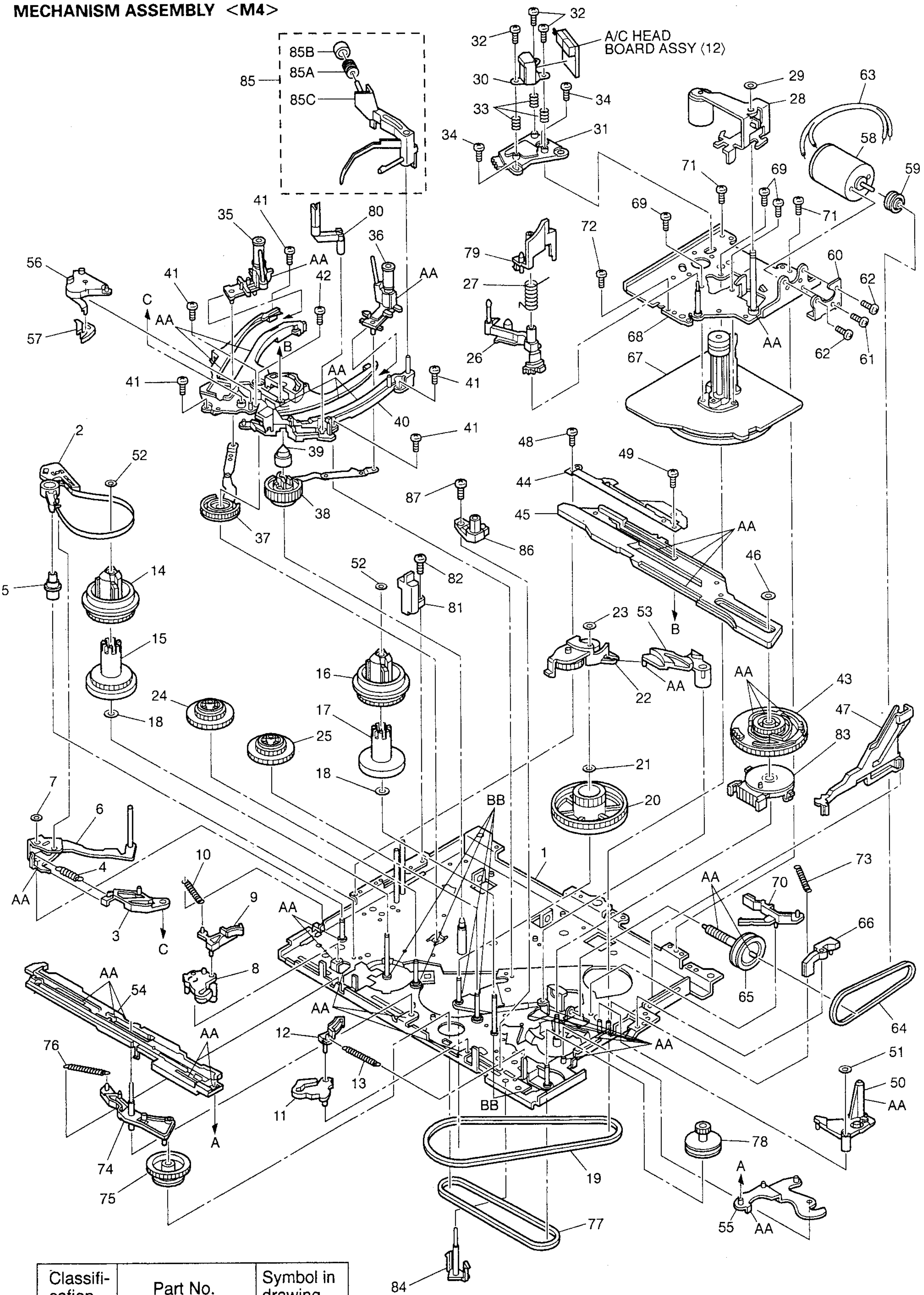
****

CHASSIS ASSEMBLY <M3>

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION
		550	PDM2312E	DRUM SUB ASS'Y
		551	LP40323-001A	CONTACT
		552	LP30004-014A	COMPRESSION SPRING
		553	PDZ0179-1-4	ROTOR ASSY
		554	SPSH2660Z	SCREW,X2
	⚠	555	PDZ0180-1-2	STATOR ASSY
		556	QYSPSPL2607Z	SCREW,X2
		557	PQ45160	INERTIA PLATE
		558	QYTPST2608Z	SCREW,X3 DRUM
		559	PDM4311A-1	ROLLER ASSY
	⚠	560	PQ11780-3	BOTTOM CHASSIS
	⚠	561	PQ11862-2-4	BOTTOM COVER
		562	QYTDSF3010Z	SCREW,X4 BOTTOM COVER
		563	LP40614-001A	SPACER,BOTTOM COVER
		564	PUS29724H	CASSETTE HOUSING ASSY
		564A	PQ46359-1-2	CASSETTE SWITCH PIN
		564B	PESW0687	CASSETTE SWITCH
		564C	SDSF2008Z	SCREW
		564D	PU43192-4	BINDER
		565	PEME0947-01-01	SPACER,X2
		566	PQ21806-3	SHIELD CASE,PRE/REC
		567	QYTDST2606Z	SCREW,X2 PRE/REC
		568	QYTDSF4012Z	SCREW,X2 MECHA
		569	QYTDSF3010Z	SCREW,X2 HOUSING
		570	QYTDSF3010Z	SCREW,X4 SW/REG
		571	QYTDSF3010R	SCREW,X4 TERMINAL
		572	QYTDST3006Z	SCREW,X4 DIGITAL
		573	PQM30029-261	SPACER,CASSETTE HOUSING
		574	SPST2606Z	SCREW,CASSETTE HOUSING
		575	SDST2610Z	SCREW,CASSETTE HOUSING
		576	PQ34613-12	SHEET(BRACKET)
		577	PQ35544	STAY(B.CHASSIS)
		578	QYTDSF3010Z	SCREW,X2 STAY
		579	PU59311	WIRE CLAMP,PRE/REC
		582	LP30002-086A	SPACER,BOTTOM CHASSIS
		WR1	QUM037-13BFBF	PARA RIBON WIRE,A/C HEAD CN20
		WR2	QUP012-32AHAH	PARA RIB S WIRE,FE HEAD CN200
		WR3	QUQ212-0524CG	FFC WIRE,DRUM CN3011
		WR4	QUQ112-0814CG	FFC WIRE,SW/JACK CN7504
		WR5	QUQ112-2222CG	FFC WIRE,DISPLAY CN3011
		WR6	QJJ016-112001	SIN CR C-C WIRE,REG CN3604
		WR7	QJJ012-051701	SIN CR C-C WIRE,REG CN3601
		WR8	QJA002-052202	SIN ID C-C WIRE,DISPLAY CN530
		WR10	QUB220-12RLRL	GND WIRE,PRE/REC

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION

5.4 MECHANISM ASSEMBLY <M4>


85
85B
85A
85C
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A/C HEAD
BOARD ASSY ⟨12⟩
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AA
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80
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AA
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57
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AA
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AA
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AA
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AA
AA
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21
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BB
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4
AA
3
C
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AA
8
AA
54
AA
76
AA
A
74
75
12
13
11
BB
AA
AA
70
73
66
65
64
51
50
AA
78
19
77
A
55
AA
84

Classifi-cation	Part No.	Symbol in drawing
Grease	KYODO-SH-P	AA
Oil	COSMO-HV56	BB

NOTE: The section marked in AA and BB indicate lubrication and greasing areas.

* *

MECHANISM ASSEMBLY <M4>

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION
1	PQ21680M-24	MAIN DECK ASSY
2	LP40006-001C	TENSION BAND ASSY
3	PQ35012-1-5	TENSION ARM LEVER
4	PQM30001-385109	TENSION SPRING
5	LP30103-001B	ADJUST PIN
6	PQ46303B-8	TENSION ARM ASSY
7	PQM30017-47	SLIT WASHER
8	PQ46305B-3	MAIN BRAKE ASSY (SUPPLY)
9	PQ46306A-6	SUB BRAKE ASSY(SUPPLY)
10	PQM30001-393	TENSION SPRING
11	PQ46308A-5	MAIN BRAKE ASSY (TAKE UP)
12	PQ46309B	SUB BRAKE ASSY(TAKE UP)
13	PQM30001-389102	TENSION SPRING
14	PQ46551B	REEL DISK ASSY(SUPPLY)
15	PQ35436	SLIT DISK(SUPPLY)
16	PQ46551B	REEL DISK ASSY(TAKE UP)
17	PQ35437	SLIT DISK(TAKE UP)
18	PQM30018-76	SPACER,X2
19	PQM30003-38	BELT,CAPSTAN MOTOR
20	PQ46497B-2	PULLEY ASSY
21	PQM30018-69	SPACER
22	PQ46312C-15	IDLER ARM ASSY
23	PQM30017-34	SLIT WASHER
24	PQ46316D-7	CLUTCH UNIT(SUPPLY)
25	PQ46323A-1	CLUTCH UNIT(TAKE UP)
26	PQ46325D	GUIDE ARM ASSY
27	PQ46326-2	TORSION SPRING
28	PQ46327A-4	PINCH ROLLER ARM ASSY
29	PQM30017-24	SLIT WASHER,P.LEVER
30	PEHE0182	AC HEAD
31	PQ35206-1-3	HEAD BASE
32	PQ43687A	SPECIAL SCREW,X3
33	PQM30002-192	COMPRESSION SPRING,X3
34	SDSP2604Z	SCREW,X2
35	PQ46595B-5	POLE BASE ASSY(SUPPLY)
36	PQ46331C	POLE BASE ASSY(TAKE UP)
37	PQ46332B-3	LOADING ARM ASSY(SUPPLY)
38	PQ46337C	LOADING ARM ASSY(TAKE UP)
39	PQ46767-1-2	GUIDE CAP
40	PQ11657-1-9	GUIDE RAIL
41	SPST2608Z	SCREW,X5 GUIDE RAIL
42	SDST2612Z	SCREW,GUIDE RAIL
43	LP20003-001A	CONTROL CAM
44	PQ35138-3	CONTROL BRACKET
45	LP10004-001C	CONTROL PLATE
46	PQM30017-8	SLIT WASHER
47	PQ21685-2-10	PINCH PLATE
48	SPST2606Z	SCREW,CONTROL CAM
49	SPSF2608M	SCREW,CONTROL BRACKET
50	PQ46342B-10	LEVER ASSY
51	PQM30017-8	SLIT WASHER
52	PQM30017-47	SLIT WASHER,X2
53	PQ35026-1-7	IDLER LEVER
54	PQ11659-2	SLIDE PLATE
55	LP40014-001A	CHANGE LEVER ASSY
56	PQ21686-1-3	TAKE UP LEVER
57	PQ46345-1-2	TAKE UP HEAD
58	QAR0023-001	LOADING MOTOR
59	PQ43546-1-2	MOTOR PULLEY
60	PQ46568-1-2	MOTOR GUIDE
61	SDSP2604Z	SCREW
62	SPSP3005Z	SCREW,X2
63	PW30101-80AJ632	WIRE,ASSY
64	LP30005-002A	BELT,LOADING MOTOR
65	PQ46395B	WORM GEAR ASSY
66	PQ21699-1-2	WORM BEARING
67	PU61487-2-5	CAPSTAN MOTOR
68	PQ46347E-17	SUB DECK ASSY
69	SPSG2608Z	SCREW,X3 CAPSTAN MOTOR
70	PQ46356C-4	CAPSTAN BRAKE ASSY
71	SPST2606Z	SCREW,X2 SUB DECK
72	SDSP2604Z	SCREW,MOTOR GUIDE
73	LP30003-005A	TENSION SPRING,C.BRAKE
74	PQ46353B	CHANGE ARM ASSY
75	PQ46354	CHANGE GEAR
76	PQM30001-386	TENSION SPRING
77	PQM30003-40	BELT,CHANGE GEAR
78	LP40008-001B	CASSETTE GEAR
79	PQ35030-1-5	LID GUIDE
80	LP20032-001A	LED PRISM
81	PEHE0237	FULL ERASE HEAD
82	SDST2610Z	SCREW,FE HEAD
83	PU61432-1-2	ROTARY ENCODER
84	PQ46473-1-1	S-SW PIN
85	PQ46436A-1	CLEANER ASSY
85A	PQ46418-1-2	CLEANER ROLLER
85B	PQ46419-1-2	CLEANER
85C	PQ35159-1-1	CLEANER ARM
86	PQ46474-1-2	S-SW HOLDER
87	SPST2606Z	SCREW

5.5 ELECTRICAL PARTS LIST

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SW REG BOARD ASSEMBLY <01>

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		PW1	LPA10076-01E	SW.REG BOARD ASSY	
		IC5101	STR-F6552	IC	
		IC5301	L5431	IC	
		IC5302	PQ12RF21	IC	
		IC5303	PQ30RV31	IC	
		IC5304	PQ5EV3	IC	
		IC5305	PQ15RW21	IC	
		IC5307	PQ15RW21	IC	
		Q5301	UN5111	TRANSISTOR	
			or RN2302	TRANSISTOR	
			or DTA114EU	TRANSISTOR	
			or PDTA114EU	TRANSISTOR	
		Q5302	2SD2144S/UV/-T	TRANSISTOR	
		Q5303	UN5211	TRANSISTOR	
			or RN1302	TRANSISTOR	
			or DTC114EU	TRANSISTOR	
			or PDTC114EU	TRANSISTOR	
		Q5304	2SA1576A/RS/-X	TRANSISTOR	
		Q5305	2SB1256	TRANSISTOR	
		Q5308	UN5211	TRANSISTOR	
			or DTC114EU	TRANSISTOR	
			or PDTC114EU	TRANSISTOR	
			or RN1302	TRANSISTOR	
		Q5310	2SD1819A/RS/-X	TRANSISTOR	
			or 2SC4081/RS/-X	TRANSISTOR	
			or 2PC4081/R/-X	TRANSISTOR	
		Q5311	UN5111	TRANSISTOR	
			or RN2302	TRANSISTOR	
			or DTA114EU	TRANSISTOR	
			or PDTA114EU	TRANSISTOR	
		Q5312	2SD2375/QP/	TRANSISTOR	
		D5001	RBV-406	BRIDGE DIODE	
		D5101	AU01	FR DIODE	
			or ERA18-04-T2	FR DIODE	
			or PG104RS	FR DIODE	
			or 1SR153-400-T2	FR DIODE	
			or 10ELS4	FR DIODE	
		D5102	AU01	FR DIODE	
			or ERA18-04-T2	FR DIODE	
			or PG104RS	FR DIODE	
			or 1SR153-400-T2	FR DIODE	
			or 10ELS4	FR DIODE	
		D5103	AU01Z	FR DIODE	
			or ERA18-02-T2	FR DIODE	
			or PG104RS	FR DIODE	
			or 1SR153-400-T2	FR DIODE	
			or 10ELS2	FR DIODE	
		D5105	AK04	DIODE	
		D5106	1SS133	DIODE	
		D5201	AU01Z	FR DIODE	
			or 10ELS2	FR DIODE	
		D5202	FML-12S	FR DIODE	
			or MA644	FR DIODE	
			or YG901C2	FR DIODE	
			or FCF06A20	FR DIODE	
		D5203	MA7D49	SB DIODE	
			or FSQ05A04B	SB DIODE	
			or YG801C04	SB DIODE	
		D5204	MA7D49	SB DIODE	
			or FSQ05A04B	SB DIODE	
			or YG801C04	SB DIODE	
		D5206	AU01Z	FR DIODE	
			or ERA18-02-T2	FR DIODE	
			or 1SR153-400-T2	FR DIODE	
			or 10ELS2	FR DIODE	
			or PG104RS	FR DIODE	
		D5207	AU01Z	FR DIODE	
			or ERA18-02-T2	FR DIODE	
			or PG104RS	FR DIODE	
			or 1SR153-400-T2	FR DIODE	
			or 10ELS2	FR DIODE	
		D5208	10ELS2	FR DIODE	
			or 1SR153-400-T2	FR DIODE	
			or ERA18-02-T2	FR DIODE	
			or PG104RS	FR DIODE	
		D5301	MTZJ15A	ZENER DIODE	
			or RD15ES/B1/-T2	ZENER DIODE	
		D5302	1SS133	DIODE	
		D5303	MTZJ27C	ZENER DIODE	
			or RD27ES/B3/-T2	ZENER DIODE	
		D5304	1SS133	DIODE	
		D5305	AK04	DIODE	
			or 11EQS04	SB DIODE	
		D5307	1SS133	DIODE	
		D5308	1SS133	DIODE	
		D5309	1SS133	DIODE	
		D5310	1SS133	DIODE	
		D5311	1SS133	DIODE	
		D5312	1SS133	DIODE	
		D5315	MTZJ3.3B	ZENER DIODE	
			or RD3.3ES/B2/-T2	ZENER DIODE	
		D5316	1SS133	DIODE	
		D5317	1SS133	DIODE	
		D5318	1SS133	DIODE	
		D5319	1SS133	DIODE	
		R5101	QRG02GJ-683	OMF RESISTOR	68kΩ,2W
		R5102	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
		R5103	QRE141J-100Y	RESISTOR	10Ω,1/4W
		R5104	QRG02GJ-683	OMF RESISTOR	68kΩ,2W
		R5106	QRT01DJ-R33X	MF RESISTOR	0.33Ω,1W
		R5108	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
		R5301	NRSA02J-3R9X	MG RESISTOR	3.9Ω,1/10W
		R5302	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R5303	NRSA02J-122X	MG RESISTOR	1.2kΩ,1/10W
	⚠	R5304	QRZ9006-4R7X	FUSI RESISTOR	4.7Ω,1/4W
	⚠	R5305	QRZ9006-4R7X	FUSI RESISTOR	4.7Ω,1/4W
	⚠	R5306	QRZ9005-101X	FUSI RESISTOR	10Ω,1/4W
		R5307	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R5308	NRSA02J-163X	MG RESISTOR	16kΩ,1/10W
		R5309	NRSA02J-153X	MG RESISTOR	15kΩ,1/10W
		R5310	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
		R5311	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R5312	QRA14CF-1242Y	CMF RESISTOR	12.4kΩ,1/4W
		R5313	QRA14CF-3011Y	CMF RESISTOR	3.01kΩ,1/4W
		R5314	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
		R5316	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R5317	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
		R5318	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	R5320	QRE141J-222Y	RESISTOR	2.2kΩ,1/4W
	R5321	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R5322	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
	R5324	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
	R5325	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
	R5326	NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
	R5327	NRSA02J-123X	MG RESISTOR	12kΩ,1/10W
	R5328	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
	R5329	NRSA02J-821X	MG RESISTOR	820Ω,1/10W
	R5331	QRE141J-333Y	RESISTOR	33kΩ,1/4W
	R5332	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
	R5333	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
	R5334	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
	R5335	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
	R5339	NRSA02J-153X	MG RESISTOR	15kΩ,1/10W
	R5341	NRVA02D-103X	CMF RESISTOR	10kΩ,1/10W
	R5342	NRVA02D-163X	CMF RESISTOR	16kΩ,1/10W
	R5345	NRSA02J-4R7X	MG RESISTOR	4.7Ω,1/10W
	R5346	NRSA02J-4R7X	MG RESISTOR	4.7Ω,1/10W
	R5347	QRL02DJ-391X	OMF RESISTOR	390Ω,2W
	R5348	QRL02DJ-391X	OMF RESISTOR	390Ω,2W
	R5349	QRL02DJ-391X	OMF RESISTOR	390Ω,2W
	R5350	QRL02DJ-391X	OMF RESISTOR	390Ω,2W
	R5351	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R5358	NRSA02J-331X	MG RESISTOR	330Ω,1/10W
⚠	C5001	QFZ9073-683	F CAPACITOR	0.068μF,250V
⚠	C5002	QFZ9051-333	F CAPACITOR	0.033μF,250V
⚠	C5005	QCZ9071-222	CAPACITOR	0.0022μF,250V
	C5006	QEZ0455-157	E CAPACITOR	150μF,400V
	C5101	QCZ0212-472	CAPACITOR	0.0047μF,1kV
	C5103	QEMU1EM-396	E CAPACITOR	39μF,25V
	C5104	QCZ0136-221Z	CAPACITOR	220pF,1kV
	C5105	QFLA1HJ-471Z	F CAPACITOR	470pF,50V
	C5201	QEMU0JM-227	E CAPACITOR	220μF,6.3V
	C5202	QEMT1CM-278	E CAPACITOR	2700μF,16V
	C5203	QEMT1AM-338	E CAPACITOR	3300μF,10V
	C5204	QETN2AM-475	E CAPACITOR	4.7μF,100V
	C5205	QEMU1HM-186	E CAPACITOR	18μF,50V
	C5206	QEMU1EM-187	E CAPACITOR	180μF,25V
	C5207	QEMT1AM-338	E CAPACITOR	3300μF,10V
	C5208	QETN1CM-337	E CAPACITOR	330μF,16V
	C5209	QETN1AM-337	E CAPACITOR	330μF,10V
	C5210	QETN1EM-107	E CAPACITOR	100μF,25V
	C5211	QETN1AM-337	E CAPACITOR	330μF,10V
	C5301	QFLA1HJ-103Z	F CAPACITOR	0.01μF,50V
	C5302	QFLC1HJ-473Z	F CAPACITOR	0.047μF,50V
	C5303	QFLC1HJ-103Z	F CAPACITOR	0.01μF,50V
	C5304	NCB21HJ-102X	CAPACITOR	0.001μF,50V
	C5305	QETN1CM-107	E CAPACITOR	100μF,16V
	C5307	QETN1AM-107	E CAPACITOR	100μF,10V
	C5308	QETN1AM-107	E CAPACITOR	100μF,10V
	C5309	NCB21HJ-102X	CAPACITOR	0.001μF,50V
	C5310	QETN1AM-107	E CAPACITOR	100μF,10V
	C5311	QETN1AM-476	E CAPACITOR	47μF,10V
	C5313	QETN1AM-107	E CAPACITOR	100μF,10V
	C5314	QETN1AM-107	E CAPACITOR	100μF,10V
	C5315	QENC1HM-105	NP E CAPACITOR	1μF,50V
	L5201	PELN1184	COIL	33μH
	L5202	PELN0966-330L	COIL	33μH
	L5203	PELN1184	COIL	33μH
	L5204	PELN0966-330L	COIL	33μH

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	K5101	QQR0678-001Z	FERRITE BEAD	
⚠	PC5101	PC123F2	PH COUPLER	
⚠	T5001	QQS0045-001	SW TRANSFORMER	
	BK1	PQ46004	BRACKET(REG)	
	CL1	PU59311-3	WIRE CLAMP	
	ET1	PQ44695-1-1	EARTH PLATE	
	ET2	PQ35474	EARTH PLATE	
	HS1	PEME0889-01-01	HEAT SINK,IC5101	
	HS2	PEME0963	HEAT SINK,D5202-4	
	HS3	PQ46006-1-1	HEAT SINK(2),IC5303	
	SD1	PQ21503-2	SHIELD CASE(REG)	
	SD2	PQ34638-1-4	SHIELD COVER(REG)	
	OT1	PQ46048	PLATE(REG),X2	
	OT2	QYTDST3006Z	SCREW,X4	
	OT3	QYTDST3008Z	SCREW,X7	
	OT4	QYTDST3010Z	SCREW,IC5101	
	OT5	SPSG3008M	SCREW,X2	
	OT6	QYTDST2606Z	SCREW	
⚠	OT7	LP40600-001A	SHEET(SW.REG)	
	OT8	PU60010-2	SPACER	
	OT9	PU59915-105	#500SPACER0.01	
	OT10	LP30002-085A	SPACER	
	FC5001	QNG0006-001Z	FUSE CLIP,F5001	
	FC5002	QNG0006-001Z	FUSE CLI,F5001	
⚠	LF5001	PELN1204-01-01	LINE FILTER	
⚠	LF5002	QQR1031-001	LINE FILTER	
⚠	CN5001	PEMC1067	AC INLET	
	CN5301	QGA2001F4-05	CONNECTOR,(1-5)DISPLAY	
	CN5303	QGA2001F1-05	CONNECTOR,(1-5)MAIN	
	CN5304	QGA2001F1-11	CONNECTOR,(1-11)MAIN	
	CN5305	QGA2001F1-06	CONNECTOR,(1-6)DIGITAL	
	CN5306	QGA2001C1-03	CONNECTOR,(1-3)DIGITAL	
	CN5307	QGA2001F1-04	CONNECTOR,(1-4)DIGITAL	
⚠	CP5301	ICP-N15	CIRCUIT PROTECTOR	
⚠	CP5302	ICP-N38	CIRCUIT PROTECTOR	
⚠	CP5303	ICP-N38	CIRCUIT PROTECTOR	
⚠	CP5304	ICP-N20	CIRCUIT PROTECTOR	
⚠	F5001	QMF51E2-2R0J1	FUSE	T2.0A,AC250V

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MAIN BOARD ASSEMBLY <03>

REF No.	PART No.	PART NAME, DESCRIPTION
PW1	LPA10070-03D	MAIN BOARD ASSY
IC1	JCP8017-MSA	IC
IC2	MM1113XF	IC
IC3	MM1111XF	IC
IC4	MM1041XM	IC
IC201	LC74775-9750	IC
IC2201	AN3651FBP	IC
IC2601	BU4052BCF	IC
IC2602	BA15218F-XE	IC
IC3001	HD6432194A19F	IC
IC3002	S-80728AN-DR-X	IC
	or S-80828ANUP-W	IC
IC3003	X24C08P	IC
	or AT24C08-10PC	IC
	or 24LC08B/P	IC
IC3004	TA7291S	IC

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION
		IC3005	TC7W53FU	IC(DIGITAL)
		IC3301	MN101C12GCA	IC
			or MN101CP12GAFCA	IC
		IC3401	BU4053BCF	IC
		IC3402	BU4053BCF	IC
		IC3403	AT45D041-RC-X	IC
		IC6080	BA15218F-XE	IC
		Q1	2SB1218A/QR/-X	TRANSISTOR
			or 2SA1576A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
		Q6	2SB1218A/QR/-X	TRANSISTOR
			or 2SA1576A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
		Q13	2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SC4081/QRS/-X	TRANSISTOR
		Q14	2SD1819A/QRS/-X	TRANSISTOR
			or 2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q15	2SB1218A/QR/-X	TRANSISTOR
			or 2SA1576A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
		Q16	UN511E	TRANSISTOR
			or PDTA144WU	TRANSISTOR
			or RN2309	TRANSISTOR
			or DTA144WU	TRANSISTOR
		Q17	UN521E	TRANSISTOR
			or PDTC144WU	TRANSISTOR
			or RN1309	TRANSISTOR
			or DTC144WU	TRANSISTOR
		Q18	UN521E	TRANSISTOR
			or PDTC144WU	TRANSISTOR
			or RN1309	TRANSISTOR
			or DTC144WU	TRANSISTOR
		Q34	2SC4081/S/-X	TRANSISTOR
		Q35	2SC4081/S/-X	TRANSISTOR
		Q36	2SC4081/S/-X	TRANSISTOR
		Q37	2SC4081/S/-X	TRANSISTOR
		Q47	2SK433/D/-W	JUNCTION FET
		Q48	2SK433/D/-W	JUNCTION FET
		Q49	2SC3936/BC/-X	TRANSISTOR
		Q55	UN521E	TRANSISTOR
			or PDTC144WU	TRANSISTOR
			or RN1309	TRANSISTOR
			or DTC144WU	TRANSISTOR
		Q152	2SB1218A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
			or 2SA1576A/QR/-X	TRANSISTOR
		Q159	2SD1819A/QRS/-X	TRANSISTOR
			or 2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q207	2SB1218A/QR/-X	TRANSISTOR
			or 2SA1576A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
		Q208	2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SC4081/QRS/-X	TRANSISTOR
		Q2001	2SC4081/QRS/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q2002	2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
		Q2003	DTA144WU	TRANSISTOR
			or PDTA144WU	TRANSISTOR
			or RN2309	TRANSISTOR
			or UN511E	TRANSISTOR
		Q2051	2SC4081/QRS/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q2052	2SA1576A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
		Q2053	DTC144WU	TRANSISTOR
			or PDTC144WU	TRANSISTOR
			or RN1309	TRANSISTOR
			or UN521E	TRANSISTOR
		Q2054	2SA1576A/QR/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
		Q2055	DTC144WU	TRANSISTOR
			or PDTC144WU	TRANSISTOR
			or RN1309	TRANSISTOR
			or UN521E	TRANSISTOR
		Q2151	2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
		Q2253	DTC114EU	TRANSISTOR
			or PDTC114EU	TRANSISTOR
			or RN1302	TRANSISTOR
			or UN5211	TRANSISTOR
		Q2601	DTA144WU	TRANSISTOR
			or PDTA144WU	TRANSISTOR
			or RN2309	TRANSISTOR
			or UN511E	TRANSISTOR
		Q2602	DTC144WU	TRANSISTOR
			or PDTC144WU	TRANSISTOR
			or RN1309	TRANSISTOR
			or UN521E	TRANSISTOR
		Q3001	2SD1819A/QRS/-X	TRANSISTOR
			or 2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q3002	LP40038-001A	TAPE SENSOR
		Q3003	LP40038-001A	TAPE SENSOR
		Q3004	2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SC4081/QRS/-X	TRANSISTOR
		Q3005	2SD1819A/QRS/-X	TRANSISTOR
			or 2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q3008	UN521E	TRANSISTOR
			or RN1309	TRANSISTOR
			or DTC144WU	TRANSISTOR
			or PDTC144WU	TRANSISTOR
		Q3050	DTC114EU	TRANSISTOR
			or PDTC114EU	TRANSISTOR
			or UN5211	TRANSISTOR
			or RN1302	TRANSISTOR
		Q4001	UN5211	TRANSISTOR
			or RN1302	TRANSISTOR
			or DTC114EU	TRANSISTOR
			or PDTC114EU	TRANSISTOR

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
Q5301	2SB1256	TRANSISTOR	
Q5302	DTC114TU	TRANSISTOR	
	or RN1311	TRANSISTOR	
	or UN5215	TRANSISTOR	
	or PDTC114TU	TRANSISTOR	
Q5303	2SD2144S/UV/-T	TRANSISTOR	
Q5304	2SD1450/ST/-T	TRANSISTOR	
	or 2SD1302/ST/-T	TRANSISTOR	
Q5305	DTA114EU	TRANSISTOR	
	or PDTA114EU	TRANSISTOR	
	or RN2302	TRANSISTOR	
	or UN5111	TRANSISTOR	
Q5307	DTC114EU	TRANSISTOR	
	or PDTC114EU	TRANSISTOR	
	or UN5211	TRANSISTOR	
	or RN1302	TRANSISTOR	
Q6030	2SB1218A/RS/-X	TRANSISTOR	
Q6031	UN5211	TRANSISTOR	
	or RN1302	TRANSISTOR	
	or DTC144EU	TRANSISTOR	
Q6032	UN5211	TRANSISTOR	
	or DTC144EU	TRANSISTOR	
	or RN1302	TRANSISTOR	
D201	1SS355	DIODE	
D202	1SS355	DIODE	
D203	1SS355	DIODE	
D205	1SS355	DIODE	
D206	1SS355	DIODE	
D2001	1SS133	DIODE	
D2201	11ES2	DIODE	
D2601	1SS133	DIODE	
D2602	1SS133	DIODE	
D3001	SIR-381SB3FM	LE DIODE	
	or SIR-381SB3FX1M	LE DIODE	
D3002	1SS133	DIODE	
D3003	RD39ES/B3/-T2	ZENER DIODE	
	or MTZJ39C	ZENER DIODE	
D3004	11ES2	DIODE	
D3005	11ES2	DIODE	
D3008	1SS355	DIODE	
D4001	1SS355	DIODE	
D4002	1SS355	DIODE	
D5305	11ES2	DIODE	
D5306	MA8110/H/-X	ZENER DIODE	
D6002	HZ30-2L-T2	ZENER DIODE	
	or HZ30-2LTD	Z DIODE (M)	
R1	NRSA02J-331X	MG RESISTOR	330Ω,1/10W
R2	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
R3	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R4	NRSA02J-822X	MG RESISTOR	8.2kΩ,1/10W
R5	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R6	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
R7	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R10	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R11	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R13	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
R15	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R16	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R24	NRVA02D-622X	CMF RESISTOR	6.2kΩ,1/10W
R25	NRVA02D-152X	CMF RESISTOR	1.5kΩ,1/10W
R46	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R47	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
R48	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
R49	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
R50	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R52	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
R54	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R55	NRSA02J-122X	MG RESISTOR	1.2kΩ,1/10W
R56	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R57	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R60	NRSA02J-563X	MG RESISTOR	56kΩ,1/10W
R62	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R63	NDC21HJ-120X	CAPACITOR	12pF,50V
R64	NDC21HJ-220X	CAPACITOR	22pF,50V
R68	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R69	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R71	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R73	NRSA02J-683X	MG RESISTOR	68kΩ,1/10W
R75	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R94	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
R95	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R96	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R120	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R121	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R137	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R166	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R168	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R169	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R170	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R171	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
R181	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R195	NRSA02J-824X	MG RESISTOR	820kΩ,1/10W
R197	NRSA02J-106X	MG RESISTOR	10MΩ,1/10W
R201	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R202	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R203	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R204	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R208	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R209	NRSA02J-512X	MG RESISTOR	5.1kΩ,1/10W
R210	NRSA02J-182X	MG RESISTOR	1.8kΩ,1/10W
R211	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
R212	NRSA02J-331X	MG RESISTOR	330Ω,1/10W
R213	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R216	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R218	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R224	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R225	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R2001	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R2002	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R2003	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
R2004	NRSA02J-224X	MG RESISTOR	220kΩ,1/10W
R2005	NRSA02J-181X	MG RESISTOR	180Ω,1/10W
R2006	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
R2007	NRSA02J-183X	MG RESISTOR	18kΩ,1/10W
R2009	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R2013	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
R2014	NRSA02J-153X	MG RESISTOR	15kΩ,1/10W
R2018	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R2019	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R2020	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R2053	NRSA02J-822X	MG RESISTOR	8.2kΩ,1/10W
R2054	NRSA02J-123X	MG RESISTOR	12kΩ,1/10W

# △ REF No.	PART No.	PART NAME, DESCRIPTION	
R2055	NRSA02J-3R3X	MG RESISTOR	3.3Ω,1/10W
R2056	NRSA02J-820X	MG RESISTOR	82Ω,1/10W
R2057	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
R2058	NRSA02J-183X	MG RESISTOR	18kΩ,1/10W
R2059	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
R2060	NRSA02J-183X	MG RESISTOR	18kΩ,1/10W
R2151	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
R2152	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R2201	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
R2202	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
R2203	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
R2204	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
R2206	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
R2207	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
R2208	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
R2209	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
R2210	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
R2211	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
R2212	NRSA02J-104X	MG RESISTOR	100kΩ,1/10W
R2213	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
R2214	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
R2215	NRSA02J-104X	MG RESISTOR	100kΩ,1/10W
R2216	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
R2217	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
R2218	NRSA02J-560X	MG RESISTOR	56Ω,1/10W
R2219	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
R2222	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
R2225	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R2226	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
R2227	NRSA02J-122X	MG RESISTOR	1.2kΩ,1/10W
R2232	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
R2233	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
R2234	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
R2235	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
R2236	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R2237	NRSA02J-511X	MG RESISTOR	510Ω,1/10W
R2239	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R2240	NRSA02J-511X	MG RESISTOR	510Ω,1/10W
R2244	NRSA02J-560X	MG RESISTOR	56Ω,1/10W
R2251	NRSA02J-333X	MG RESISTOR	33kΩ,1/10W
R2252	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
R2254	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R2601	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R2602	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
R2603	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
R2604	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R2605	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R2606	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R2607	NRSA02J-104X	MG RESISTOR	100kΩ,1/10W
R2608	NRSA02J-104X	MG RESISTOR	100kΩ,1/10W
R2621	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R2622	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R3011	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3012	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3013	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3014	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3015	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3016	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3017	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3018	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
R3019	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3020	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3021	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3022	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3024	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3025	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3026	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3027	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3029	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3030	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3031	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3033	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3034	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3035	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3036	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3037	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3038	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
R3039	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3040	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3041	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3042	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3044	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3046	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R3047	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R3048	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R3049	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R3050	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R3051	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R3052	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R3053	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R3054	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3055	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3056	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3057	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3058	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3059	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3060	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R3061	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R3062	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3063	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R3066	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3069	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R3071	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3072	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3073	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3074	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R3075	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R3076	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R3077	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3078	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3079	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3080	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3081	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3083	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3085	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3086	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3087	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3088	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
R3089	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3090	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3091	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3092	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R3093	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3094	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3095	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3096	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3097	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3103	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3104	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3105	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3106	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3201	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3202	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3203	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3204	NRSA02J-392X	MG RESISTOR	3.9kΩ,1/10W
R3205	QRE141J-750Y	RESISTOR	75Ω,1/4W
R3206	NRSA02J-822X	MG RESISTOR	8.2kΩ,1/10W
R3207	NRSA02J-822X	MG RESISTOR	8.2kΩ,1/10W
R3208	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
R3209	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
R3210	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
R3211	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
R3212	NRSA02J-474X	MG RESISTOR	470kΩ,1/10W
R3213	NRSA02J-334X	MG RESISTOR	330kΩ,1/10W
R3214	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3215	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3216	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3217	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
R3218	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3219	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3220	NRSA02J-104X	MG RESISTOR	100kΩ,1/10W
R3222	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3223	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
R3224	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
R3225	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3229	NRSA02J-105X	MG RESISTOR	1MΩ,1/10W
R3230	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3231	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3233	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3234	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3235	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
R3236	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
R3237	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3238	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3240	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3241	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3242	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3244	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3251	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3252	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3253	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3260	NRSA02J-333X	MG RESISTOR	33kΩ,1/10W
R3262	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3302	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3303	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3313	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R3321	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R3322	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R3323	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R3326	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3328	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
R3329	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
R3330	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R3331	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3332	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
R3333	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3339	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3340	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3342	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R3343	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R3345	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R3346	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R3347	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R3348	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R3349	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R3350	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R3351	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R3352	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R3353	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3355	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3356	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3357	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3358	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3359	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3361	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3362	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R3363	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3364	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3365	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3366	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R3368	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3369	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3370	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3371	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3372	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3373	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3374	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3375	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3376	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3377	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3378	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3379	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3380	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3381	NRSA02J-331X	MG RESISTOR	330Ω,1/10W
R3382	NRSA02J-331X	MG RESISTOR	330Ω,1/10W
R3383	NRSA02J-331X	MG RESISTOR	330Ω,1/10W
R3387	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R3388	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R3389	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R3390	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R3401	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R3402	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R3404	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R3405	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R3412	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R3414	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R3415	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R3432	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R3433	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R3435	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R3439	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R3442	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R3461	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3462	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W

⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R3463	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3464	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3465	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3466	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R4001	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R4002	NRSA02J-153X	MG RESISTOR	15kΩ,1/10W
R4003	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
R4004	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
R4005	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
R4007	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R4008	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R4009	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R4010	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R4011	NRSA02J-392X	MG RESISTOR	3.9kΩ,1/10W
R4012	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
R4013	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R4014	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
R4015	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
R4016	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R4017	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R4018	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R4019	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R4020	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R4021	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R5308	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R5309	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
R5315	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
R5319	QRE141J-511Y	RESISTOR	510Ω,1/4W
R5320	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R5321	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
R5322	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
R6020	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R6021	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R6022	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R6023	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R6030	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R6031	NRSA02J-271X	MG RESISTOR	270Ω,1/10W
R6032	NRSA02J-392X	MG RESISTOR	3.9kΩ,1/10W
R6033	NRSA02J-182X	MG RESISTOR	1.8kΩ,1/10W
R6082	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R6508	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R6510	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R6553	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R6554	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R7501	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
R7502	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
R7503	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
R7504	NQR0227-004X	FERRITE CORE	
C1	QEKJ1CM-106	E CAPACITOR	10μF,16V
C2	NCB21EK-104X	CAPACITOR	0.1μF,25V
C3	NCB21HK-103X	CAPACITOR	0.01μF,50V
C5	NCB21HK-103X	CAPACITOR	0.01μF,50V
C6	NCB21EK-104X	CAPACITOR	0.1μF,25V
C7	QEKJ1CM-107	E CAPACITOR	100μF,16V
C9	NCB21HK-103X	CAPACITOR	0.01μF,50V
C11	NCB21HK-103X	CAPACITOR	0.01μF,50V
C12	NCB21EK-473X	CAPACITOR	0.047μF,25V
C13	QEKJ1HM-335	E CAPACITOR	3.3μF,50V
C14	NCB21EK-333X	CAPACITOR	0.033μF,25V
C16	NCB21CK-105X	CAPACITOR	1μF,16V
C19	NDC21HJ-470X	CAPACITOR	47pF,50V

#	⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
	C20	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
	C21	NCB21HK-563X	CAPACITOR	0.056μF,50V
	C23	NCB21HK-223X	CAPACITOR	0.022μF,50V
	C24	NCB21CK-474X	CAPACITOR	0.47μF,16V
	C25	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C27	NDC21HJ-101X	CAPACITOR	100pF,50V
	C29	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
	C30	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
	C31	NCB21HK-223X	CAPACITOR	0.022μF,50V
	C32	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C33	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C34	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C36	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C37	QEKJ1CM-476	E CAPACITOR	47μF,16V
	C41	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C42	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C43	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C45	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C46	NDC21HJ-101X	CAPACITOR	100pF,50V
	C47	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C48	QEKJ0JM-476	E CAPACITOR	47μF,6.3V
	C49	NDC21HJ-221X	CAPACITOR	220pF,50V
	C54	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
	C55	QEKJ1CM-106	E CAPACITOR	10μF,16V
	C56	QEKJ1HM-335	E CAPACITOR	3.3μF,50V
	C57	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C58	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C59	NCB21EK-473X	CAPACITOR	0.047μF,25V
	C60	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C62	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C63	NDC21HG-151X	CAPACITOR	150pF,50V
	C64	QEKJ0JM-107	E CAPACITOR	100μF,6.3V
	C65	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C66	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C73	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C74	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C75	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C76	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C77	NDC21HJ-270X	CAPACITOR	27pF,50V
	C79	NDC21HJ-120X	CAPACITOR	12pF,50V
	C85	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C86	QEKJ0JM-476	E CAPACITOR	47μF,6.3V
	C87	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C88	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C89	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C90	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C92	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
	C98	NCB21CK-105X	CAPACITOR	1μF,16V
	C107	NDC21HJ-5R0X	CAPACITOR	5pF,50V
	C134	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C136	NCB11EK-104X	CAPACITOR	0.1μF,25V
	C137	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C139	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C141	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C143	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C164	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C165	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C201	QEKJ0JM-227	E CAPACITOR	220μF,6.3V
	C204	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C206	NDC21HJ-330X	CAPACITOR	33pF,50V
	C207	NDC21HJ-330X	CAPACITOR	33pF,50V

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	C209	NCB21CK-474X	CAPACITOR	0.47μF,16V
	C212	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C213	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
	C214	NCB21CK-224X	CAPACITOR	0.22μF,16V
	C215	NCB21CK-224X	CAPACITOR	0.22μF,16V
	C216	QEKJ0JM-227	E CAPACITOR	220μF,6.3V
	C217	NDC21HJ-560X	CAPACITOR	56pF,50V
	C218	NCB21AK-105X	CAPACITOR	1μF,10V
	C222	NCB21AK-105X	CAPACITOR	1μF,10V
	C2002	QEKJ1CM-476	E CAPACITOR	47μF,16V
	C2003	NCB21HK-123X	CAPACITOR	0.012μF,50V
	C2004	QEKJ1CM-226	E CAPACITOR	22μF,16V
	C2005	NCB21HK-102X	CAPACITOR	0.001μF,50V
	C2006	NCB21HK-331X	CAPACITOR	330pF,50V
	C2007	QEKJ1CM-106	E CAPACITOR	10μF,16V
	C2008	NCB21HK-152X	CAPACITOR	0.0015μF,50V
	C2009	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
	C2010	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
	C2011	NCB21EK-333X	CAPACITOR	0.033μF,25V
	C2012	NCB21EK-333X	CAPACITOR	0.033μF,25V
	C2013	NCB21EK-333X	CAPACITOR	0.033μF,25V
	C2015	QEKJ1CM-226	E CAPACITOR	22μF,16V
	C2016	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
	C2051	NCB21HK-331X	CAPACITOR	330pF,50V
	C2052	QFLC1HJ-823Z	F CAPACITOR	0.082μF,50V
	C2053	NCB21HK-472X	CAPACITOR	0.0047μF,50V
	C2054	NCB21HK-223X	CAPACITOR	0.022μF,50V
	C2055	QEKJ1CM-106	E CAPACITOR	10μF,16V
	C2151	NDC21HJ-101X	CAPACITOR	100pF,50V
	C2152	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C2204	QETJ1HM-226	E CAPACITOR	22μF,50V
	C2205	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
	C2206	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
	C2207	QEKJ1CM-476	E CAPACITOR	47μF,16V
	C2208	QEKJ1CM-106	E CAPACITOR	10μF,16V
	C2209	QEKJ1CM-106	E CAPACITOR	10μF,16V
	C2210	QEKJ1CM-106	E CAPACITOR	10μF,16V
	C2211	QEKJ1CM-106	E CAPACITOR	10μF,16V
	C2212	QEKJ1CM-476	E CAPACITOR	47μF,16V
	C2213	QEKJ0JM-476	E CAPACITOR	47μF,6.3V
	C2214	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C2215	QEKJ1CM-106	E CAPACITOR	10μF,16V
	C2216	QEKJ1HM-105	E CAPACITOR	1μF,50V
	C2217	QEKJ1HM-105	E CAPACITOR	1μF,50V
	C2218	QETN1HM-106	E CAPACITOR	10μF,50V
	C2219	QETN1HM-106	E CAPACITOR	10μF,50V
	C2220	QETN1EM-476	E CAPACITOR	47μF,25V
	C2224	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C2225	QEKJ1HM-224	E CAPACITOR	0.22μF,50V
	C2230	NCB21CK-473X	CAPACITOR	0.047μF,16V
	C2231	NCB21HK-153X	CAPACITOR	0.015μF,50V
	C2232	QEKJ1HM-224	E CAPACITOR	0.22μF,50V
	C2233	NCB21HK-153X	CAPACITOR	0.015μF,50V
	C2234	NCB21CK-473X	CAPACITOR	0.047μF,16V
	C2251	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C2257	QERF0JM-476	E CAPACITOR	47μF,6.3V
	C2258	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C2259	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C2260	NDC21HJ-181X	CAPACITOR	180pF,50V
	C2261	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C2601	QEKJ1CM-106	E CAPACITOR	10μF,16V
	C2602	QETN1HM-106	E CAPACITOR	10μF,50V
	C2611	QETN1EM-476	E CAPACITOR	47μF,25V
	C2612	QETN1EM-476	E CAPACITOR	47μF,25V
	C3002	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C3003	QEKJ1HM-106	E CAPACITOR	10μF,50V
	C3004	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C3007	NDC21HJ-101X	CAPACITOR	100pF,50V
	C3008	NDC21HJ-101X	CAPACITOR	100pF,50V
	C3010	QEZ0244-229	EDL CAPACITOR	0.0022F,5.5V
	C3012	QEKJ0JM-107	E CAPACITOR	100μF,6.3V
	C3013	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C3014	QEKJ1CM-226	E CAPACITOR	22μF,16V
	C3016	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C3017	NDC21HJ-470X	CAPACITOR	47pF,50V
	C3018	NDC21HJ-470X	CAPACITOR	47pF,50V
	C3019	NDC21HJ-101X	CAPACITOR	100pF,50V
	C3020	NDC21HJ-101X	CAPACITOR	100pF,50V
	C3021	NDC21HJ-101X	CAPACITOR	100pF,50V
	C3022	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C3023	QEKJ1CM-106	E CAPACITOR	10μF,16V
	C3024	NDC21HJ-120X	CAPACITOR	12pF,50V
	C3026	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C3027	QEKJ1CM-106	E CAPACITOR	10μF,16V
	C3028	NDC21HJ-101X	CAPACITOR	100pF,50V
	C3029	NDC21HJ-101X	CAPACITOR	100pF,50V
	C3030	QEKJ1CM-226	E CAPACITOR	22μF,16V
	C3031	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C3032	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C3033	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C3034	NDC21HJ-470X	CAPACITOR	47pF,50V
	C3035	NDC21HJ-470X	CAPACITOR	47pF,50V
	C3036	NDC21HJ-180X	CAPACITOR	18pF,50V
	C3037	NDC21HJ-120X	CAPACITOR	12pF,50V
	C3038	NDC21HJ-101X	CAPACITOR	100pF,50V
	C3039	NDC21HJ-101X	CAPACITOR	100pF,50V
	C3040	NCF21CZ-105X	CAPACITOR	1μF,16V
	C3041	NDC21HJ-100X	CAPACITOR	10pF,50V
	C3042	QETN0JM-108	E CAPACITOR	1000μF,6.3V
	C3046	NDC21HJ-101X	CAPACITOR	100pF,50V
	C3047	NDC21HJ-101X	CAPACITOR	100pF,50V
	C3048	NDC21HJ-101X	CAPACITOR	100pF,50V
	C3050	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C3051	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C3070	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C3071	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C3201	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C3312	NDC21HJ-200X	CAPACITOR	20pF,50V
	C3313	NDC21HJ-200X	CAPACITOR	20pF,50V
	C3314	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C3333	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C3400	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C3401	QEKJ1CM-226	E CAPACITOR	22μF,16V
	C3416	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C3446	QCBB1HK-104	CAPACITOR	0.1μF,50V
	C3456	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C4001	QEKJ1CM-226	E CAPACITOR	22μF,16V
	C4002	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C4003	NCB21HK-102X	CAPACITOR	0.001μF,50V
	C4004	QEKJ1CM-226	E CAPACITOR	22μF,16V
	C4005	NCB21HK-222X	CAPACITOR	0.0022μF,50V
	C4006	QEKJ1CM-476	E CAPACITOR	47μF,16V

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
C4008	NCB21AK-105X	CAPACITOR	1μF,10V
C4009	NCB21HK-563X	CAPACITOR	0.056μF,50V
C4010	NCB21EK-223X	CAPACITOR	0.022μF,25V
C4011	NCB21CK-104X	CAPACITOR	0.1μF,16V
C4012	NCB21EK-224X	CAPACITOR	0.22μF,25V
C4013	NCB21HK-563X	CAPACITOR	0.056μF,50V
C4014	NDC21HJ-101X	CAPACITOR	100pF,50V
C4015	NCB21HJ-102X	CAPACITOR	0.001μF,50V
C5306	QETJ1AM-107	E CAPACITOR	100μF,10V
C5307	QEKJ1CM-226	E CAPACITOR	22μF,16V
C5308	QETJ1CM-227	E CAPACITOR	220μF,16V
C5309	QETJ1CM-107	E CAPACITOR	100μF,16V
C6006	NCB21HK-103X	CAPACITOR	0.01μF,50V
C6007	QETJ1AM-337	E CAPACITOR	330μF,10V
C6008	NCB21HK-103X	CAPACITOR	0.01μF,50V
C6014	NCB21HK-103X	CAPACITOR	0.01μF,50V
C6020	NDC21HJ-101X	CAPACITOR	100pF,50V
C6021	NDC21HJ-101X	CAPACITOR	100pF,50V
C6022	NDC21HJ-101X	CAPACITOR	100pF,50V
C6032	NCB21HK-473X	CAPACITOR	0.047μF,50V
C6033	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
C6037	QEKJ1HM-106	E CAPACITOR	10μF,50V
C7501	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
L1	QQL29BJ-100Z	COIL	10μH
L3	QQL29BJ-6R8Z	COIL	6.8μH
L4	QQL29BJ-100Z	COIL	10μH
L7	QQL29BJ-100Z	COIL	10μH
L9	QQL29BJ-100Z	COIL	10μH
L12	QQL29BJ-330Z	COIL	33μH
L13	QQL071J-120Y	COIL	12μH
L14	QQL071J-820Y	COIL	82μH
L16	QQL29BJ-100Z	COIL	10μH
L18	QQR0967-001	COIL	12μH
L201	QQL29BK-1R0Z	COIL	1μH
L202	QQL071J-330Y	COIL	33μH
L203	QQL37CJ-220Z	COIL	22μH
L204	QQL29BJ-100Z	COIL	10μH
L206	QQL071J-220Y	COIL	22μH
L2251	QQL29BJ-100Z	COIL	10μH
L2252	QQL29BJ-151Z	COIL	150μH
L3001	QQL29BK-100Z	COIL	10μH
L3002	QQL29BJ-330Z	COIL	33μH
L3003	QQL29BJ-330Z	COIL	33μH
L6002	QQL29BJ-100Z	COIL	10μH
L6031	QQL29BK-1R0Z	COIL	1μH
X1	QAX0530-001	CRYSTAL RESONATOR	
X3001	QAX0444-001	CRYSTAL RESONATOR	
X3002	QAX0527-001	CRYSTAL RESONATOR	
X3301	QAX0584-001Z	CRYSTAL RESONATOR	
PC3001	SG-246	IC(PHOTO SENSOR	
PC3002	SG-246	IC(PHOTO SENSOR	
T2051	PELN0832	OSC TRANSFORMER	
TU6001	QAU0107-001	TUNER	
SD1	LP30633-001A	SHIELD CASE(PRE/REC)	
ET1	LP20853-001A	EARTH PLATE(RF)	
OT1	QYTDSF3010Z	SCREW,X2 TERMINAL	
OT2	PU59391	STYLE PIN	
CN1	QGF1028C2-08	FPC CONNECTOR,(1-8)U.DRUM	
CN606	QGB2024K1-09S	CONNECTOR,(1-9)D.PRE/REC	
CN607	QGB2024K1-10S	CONNECTOR,(1-10)D.PRE/REC	
CN2001	QGD2003C1-07	CONNECTOR,(1-7)A/C HEAD	
CN2002	QGD2003C1-02	CONNECTOR,(1-2)FE HEAD	
CN2601	QGA2501C1-09	CONNECTOR,(1-9)FMA_DIGITAL	
CN3001	QGF1207C1-05	FPC CONNECTOR,(1-5)DRUM MDA	
CN3002	QGD2003C1-02	CONNECTOR,(1-2)LOADING MOTOR	
CN3003	QGB2002L1-08	CONNECTOR,(1-8)CAPSTAN MOTOR	
CN3004	PU61434-1-1	CONNECTOR,(1-5)ROTARY ENCODER	
CN3011	QGF1207C1-22	FPC CONNECTOR,(1-22)FRONT	
CN3601	QGA2001C1-05	CONNECTOR,(1-5)REG(M)	
CN3602	QGA2501C1-09	CONNECTOR,(1-9)DIGITAL	
CN3603	QGA2001C1-04	CONNECTOR,(1-4)D.CASS.SW	
CN3604	QGA2501C1-11	CONNECTOR,(1-11)REG	
CN3605	QGA2501C1-07	CONNECTOR,(1-7)DIGITAL	
CN3606	QGA2501C1-04	CONNECTOR,(1-4)HOST_OSD	
CN7501	QGB2024K1-17S	CONNECTOR,(1-17)TERMINAL	
CN7502	QGB2024K1-17S	CONNECTOR,(1-17)TERMINAL	
CN7503	QGB2024K1-17S	CONNECTOR,(1-17)TERMINAL	
CN7504	QGF1207C1-08	FPC CONNECTOR,(1-8)TERMINAL	
⚠ CP3003	ICP-N25	CIRCUIT PROTECTOR	
⚠ CP4001	ICP-N15	CIRCUIT PROTECTOR	

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3D SVHS BOARD ASSEMBLY <05>

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION
PW1	LPA10033-13A	3D SVHS BOARD ASSY
IC1001	JCP8008	IC
IC1002	VC2076MP-XE	IC
IC1006	HA118092FP1	IC
IC1007	BA10358F-XE	IC
IC1008	MM1115XF	IC
IC1401	JCP8010-2	IC(DIGITAL)
IC1402	MN47V77S-XE	IC
Q1004	DTC144WU	TRANSISTOR
	or RN1309	TRANSISTOR
	or UN521E	TRANSISTOR
	or PDTC144WU	TRANSISTOR
Q1005	DTC144WU	TRANSISTOR
	or PDTC144WU	TRANSISTOR
	or UN521E	TRANSISTOR
	or RN1309	TRANSISTOR
Q1006	2SA1576A/QR/-X	TRANSISTOR
	or 2SB1218A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
Q1007	2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
	or 2SD1819A/QRS/-X	TRANSISTOR
Q1012	2SC4081/QRS/-X	TRANSISTOR
	or 2SD1819A/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
Q1014	2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
	or 2SD1819A/QRS/-X	TRANSISTOR
Q1015	2SC4081/QRS/-X	TRANSISTOR
	or 2SD1819A/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
Q1016	DTC144WU	TRANSISTOR
	or PDTC144WU	TRANSISTOR
	or RN1309	TRANSISTOR

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION
			or UN521E	TRANSISTOR
		Q1021	2SA1576A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
		Q1022	DTC144WU	TRANSISTOR
			or PDTC144WU	TRANSISTOR
			or RN1309	TRANSISTOR
			or UN521E	TRANSISTOR
		Q1025	2SC4081/QRS/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q1026	2SA1576A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
	⚠	Q1401	2SC1317/RS/-T	TRANSISTOR
		Q1402	2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
		Q1403	2SC4081/QRS/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q1404	2SC4081/S/-X	TRANSISTOR
		Q1405	2SC4081/QRS/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q1406	2SA1576A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
		Q1407	2SA1576A/QR/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
		Q1408	2SA1576A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
		Q1409	2SA1576A/QR/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
		Q1410	2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
		Q1411	2SA1576A/QR/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
		Q1412	DTC144WU	TRANSISTOR
			or PDTC144WU	TRANSISTOR
			or UN521E	TRANSISTOR
			or RN1309	TRANSISTOR
		Q1413	DTC144WU	TRANSISTOR
			or UN521E	TRANSISTOR
			or PDTC144WU	TRANSISTOR
			or RN1309	TRANSISTOR
		Q1414	DTC144WU	TRANSISTOR
			or PDTC144WU	TRANSISTOR
			or RN1309	TRANSISTOR
			or UN521E	TRANSISTOR
		Q1416	DTC144WU	TRANSISTOR
			or RN1309	TRANSISTOR
			or UN521E	TRANSISTOR
			or PDTC144WU	TRANSISTOR
		Q1417	2SC4081/QRS/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
			or 2PC4081/R/-X	TRANSISTOR	
		Q1418	2SC4081/QRS/-X	TRANSISTOR	
			or 2PC4081/R/-X	TRANSISTOR	
			or 2SD1819A/QRS/-X	TRANSISTOR	
		D1002	1SS133	DIODE	
			or 1N4148M	DIODE	
		D1003	1SS133	DIODE	
			or 1N4148M	DIODE	
		D1004	1SS133	DIODE	
			or 1N4148M	DIODE	
		D1006	1SS133	DIODE	
			or 1N4148M	DIODE	
		D1401	RD4.3ES/B2/-T2	ZENER DIODE	
			or MTZJ4.3B	ZENER DIODE	
		D1402	1SS133	DIODE	
			or 1N4148M	DIODE	
		R1002	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R1003	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
		R1004	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R1008	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R1009	NRSA02J-125X	MG RESISTOR	1.2MΩ,1/10W
		R1010	NRVA02D-332X	CMF RESISTOR	3.3kΩ,1/10W
		R1011	NRVA02D-332X	CMF RESISTOR	3.3kΩ,1/10W
		R1012	NRVA02D-152X	CMF RESISTOR	1.5kΩ,1/10W
		R1013	NRVA02D-471X	CMF RESISTOR	470Ω,1/10W
		R1014	NRVA02D-102X	CMF RESISTOR	1kΩ,1/10W
		R1015	NRVA02D-102X	CMF RESISTOR	1kΩ,1/10W
		R1016	NRSA02J-122X	MG RESISTOR	1.2kΩ,1/10W
		R1017	NRSA02J-162X	MG RESISTOR	1.6kΩ,1/10W
		R1018	NRSA02J-151X	MG RESISTOR	150Ω,1/10W
		R1019	NRSA02J-391X	MG RESISTOR	390Ω,1/10W
		R1020	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
		R1021	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
		R1023	NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
		R1025	NRSA02J-823X	MG RESISTOR	82kΩ,1/10W
		R1026	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1027	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
		R1028	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
		R1029	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R1030	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R1031	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
		R1032	NRSA02J-181X	MG RESISTOR	180Ω,1/10W
		R1035	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R1037	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R1038	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R1039	NRSA02J-394X	MG RESISTOR	390kΩ,1/10W
		R1045	NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
		R1046	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
		R1047	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R1048	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R1049	NRSA02J-475X	MG RESISTOR	4.7MΩ,1/10W
		R1053	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1054	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
		R1055	NRVA02D-563X	CMF RESISTOR	56kΩ,1/10W
		R1056	NRVA02D-224X	CMF RESISTOR	220kΩ,1/10W
		R1058	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
		R1059	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R1060	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R1063	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
		R1064	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
		R1065	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R1066	NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
R1067	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R1068	NRSA02J-361X	MG RESISTOR	360Ω,1/10W
R1069	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R1070	NRSA02J-391X	MG RESISTOR	390Ω,1/10W
R1071	NRSA02J-184X	MG RESISTOR	180kΩ,1/10W
R1072	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
R1075	NRSA02J-183X	MG RESISTOR	18kΩ,1/10W
R1076	NRSA02J-333X	MG RESISTOR	33kΩ,1/10W
R1077	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R1078	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R1079	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R1081	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R1401	NRSA02J-331X	MG RESISTOR	330Ω,1/10W
R1402	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R1403	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
R1404	NRSA02J-123X	MG RESISTOR	12kΩ,1/10W
R1405	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R1406	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R1407	NRSA02J-821X	MG RESISTOR	820Ω,1/10W
R1408	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
R1409	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
R1410	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
R1411	NRSA02J-243X	MG RESISTOR	24kΩ,1/10W
R1412	NRSA02J-104X	MG RESISTOR	100kΩ,1/10W
R1413	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R1414	NRSA02J-331X	MG RESISTOR	330Ω,1/10W
R1415	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R1416	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R1417	NRSA02J-821X	MG RESISTOR	820Ω,1/10W
R1418	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R1419	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
R1420	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
R1422	NRSA02J-391X	MG RESISTOR	390Ω,1/10W
R1423	NRSA02J-821X	MG RESISTOR	820Ω,1/10W
R1425	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R1428	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R1429	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R1430	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R1431	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R1432	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R1433	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R1434	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
R1435	NRSA02J-242X	MG RESISTOR	2.4kΩ,1/10W
R1436	NRSA02J-153X	MG RESISTOR	15kΩ,1/10W
R1437	NRSA02J-123X	MG RESISTOR	12kΩ,1/10W
R1438	NRSA02J-821X	MG RESISTOR	820Ω,1/10W
R1439	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R1440	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
R1442	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
R1443	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R1444	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
R1445	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R1446	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
R1447	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
R1448	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R1449	NRSA02J-470X	MG RESISTOR	47Ω,1/10W
R1451	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
R1452	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R1454	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R1455	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R1456	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R1457	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R1458	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R1459	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R1460	NRSA02J-104X	MG RESISTOR	100kΩ,1/10W
R1461	NRSA02J-182X	MG RESISTOR	1.8kΩ,1/10W
R1462	NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
R1463	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
R1465	NRSA02J-821X	MG RESISTOR	820Ω,1/10W
R1467	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R1468	NRSA02J-162X	MG RESISTOR	1.6kΩ,1/10W
R1470	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R1471	NRSA02J-333X	MG RESISTOR	33kΩ,1/10W
R1472	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
VR1002	QVZ3521-104Z	V RESISTOR,P.BURST LEVEL	
VR1401	QVP0039-103Z	TRIM RESISTOR,DAY LEVEL	
C1001	QEKJ0JM-476	E CAPACITOR	47μF,6.3V
C1002	QEKJ1HM-474	E CAPACITOR	0.47μF,50V
C1003	QEKJ1CM-106	E CAPACITOR	10μF,16V
C1005	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
C1006	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1007	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1010	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1011	NDC21HJ-150X	CAPACITOR	15pF,50V
C1013	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1014	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
C1015	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
C1016	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
C1017	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1019	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1020	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1021	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1022	QEKJ1HM-105	E CAPACITOR	1μF,50V
C1023	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
C1024	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1026	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1027	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1028	QEKJ0JM-337	E CAPACITOR	330μF,6.3V
C1029	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1030	QEKJ1HM-105	E CAPACITOR	1μF,50V
C1031	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
C1033	QEKJ1HM-105	E CAPACITOR	1μF,50V
C1034	QEPF1HM-105	NP E CAPACITOR	1μF,50V
C1035	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
C1036	QEKJ0JM-226	E CAPACITOR	22μF,6.3V
C1037	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
C1038	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
C1039	QEKJ1CM-476	E CAPACITOR	47μF,16V
C1040	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1041	NDC21HG-301X	CAPACITOR	300pF,50V
C1042	NDC21HG-301X	CAPACITOR	300pF,50V
C1043	NDC21HG-221X	CAPACITOR	220pF,50V
C1044	NDC21HG-820X	CAPACITOR	82pF,50V
C1045	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1046	NDC21HG-271X	CAPACITOR	270pF,50V
C1047	NDC21HJ-101X	CAPACITOR	100pF,50V
C1048	NDC21HJ-181X	CAPACITOR	180pF,50V
C1049	NDC21HG-301X	CAPACITOR	300pF,50V
C1050	NDC21HG-301X	CAPACITOR	300pF,50V
C1056	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1057	NCB21HK-103X	CAPACITOR	0.01μF,50V

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
C1058	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1063	NDC21HJ-101X	CAPACITOR	100pF,50V
C1064	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1065	QEKJ0JM-227	E CAPACITOR	220μF,6.3V
C1066	NCB21EK-223X	CAPACITOR	0.022μF,25V
C1067	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1068	QEKJ1HM-105	E CAPACITOR	1μF,50V
C1069	QEKJ1CM-106	E CAPACITOR	10μF,16V
C1070	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1071	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1072	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1073	NDC21HJ-150X	CAPACITOR	15pF,50V
C1074	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1082	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1086	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1087	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1088	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1089	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1095	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1096	QEKJ1CM-106	E CAPACITOR	10μF,16V
C1097	QEPF1HM-105	NP E CAPACITOR	1μF,50V
C1098	QEKJ1HM-105	E CAPACITOR	1μF,50V
C1099	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1401	QEKJ1CM-336	E CAPACITOR	33μF,16V
C1402	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1403	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1404	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1405	NDC21HJ-220X	CAPACITOR	22pF,50V
C1406	NDC21HJ-6R0X	CAPACITOR	6pF,50V
C1407	NDC21HJ-390X	CAPACITOR	39pF,50V
C1408	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1409	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1410	QEKJ0JM-337	E CAPACITOR	330μF,6.3V
C1411	QEKJ1CM-106	E CAPACITOR	10μF,16V
C1412	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1413	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1414	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1415	NDC21HJ-221X	CAPACITOR	220pF,50V
C1416	NDC21HJ-391X	CAPACITOR	390pF,50V
C1417	NDC21HJ-680X	CAPACITOR	68pF,50V
C1418	NDC21HJ-8R0X	CAPACITOR	8pF,50V
C1419	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1420	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1421	NDC21HJ-680X	CAPACITOR	68pF,50V
C1422	NDC21HJ-330X	CAPACITOR	33pF,50V
C1424	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1425	QEKJ0JM-337	E CAPACITOR	330μF,6.3V
C1426	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1427	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1428	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1429	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1430	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1431	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1432	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
C1433	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1434	QEKJ0JM-337	E CAPACITOR	330μF,6.3V
C1435	QEKJ1HM-105	E CAPACITOR	1μF,50V
C1436	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1437	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1438	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1439	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1440	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1441	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1442	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1443	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1444	QEKJ1HM-105	E CAPACITOR	1μF,50V
C1445	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1446	NCB21EK-104X	CAPACITOR	0.1μF,25V
C1447	NCB21HK-222X	CAPACITOR	0.0022μF,50V
C1448	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1449	QEKJ0JM-337	E CAPACITOR	330μF,6.3V
C1450	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1451	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1454	NDC21HJ-220X	CAPACITOR	22pF,50V
C1455	NDC21HJ-390X	CAPACITOR	39pF,50V
C1457	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1458	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1459	NDC21HJ-470X	CAPACITOR	47pF,50V
C1460	NDC21HJ-470X	CAPACITOR	47pF,50V
C1461	NDC21HJ-470X	CAPACITOR	47pF,50V
C1462	NDC21HJ-470X	CAPACITOR	47pF,50V
C1463	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
C1464	NDC21HJ-330X	CAPACITOR	33pF,50V
C1465	NDC21HJ-470X	CAPACITOR	47pF,50V
C1468	NDC21HJ-470X	CAPACITOR	47pF,50V
C1471	NDC21HJ-470X	CAPACITOR	47pF,50V
C1472	NDC21HJ-470X	CAPACITOR	47pF,50V
C1473	NDC21HJ-470X	CAPACITOR	47pF,50V
L1001	QQL29BJ-220Z	COIL	22μH
L1004	QQL071J-680Y	COIL	68μH
L1006	QQL29BJ-101Z	COIL	100μH
L1008	QQL29BJ-100Z	COIL	10μH
L1401	QQL071J-330Y	COIL	33μH
L1402	QQL29BJ-100Z	COIL	10μH
L1404	QQL071J-8R2Y	COIL	8.2μH
L1405	QQL071J-150Y	COIL	15μH
L1406	QQL071J-6R8Y	COIL	6.8μH
L1407	QQL29BJ-100Z	COIL	10μH
L1408	QQL29BJ-100Z	COIL	10μH
L1409	QQL071J-330Y	COIL	33μH
L1410	QQL29BJ-4R7Z	COIL	4.7μH
L1411	QQL071J-1R0Y	COIL	1μH
LC1401	QQR0657-013Z	NOISE FILTER	
LC1402	QQR0657-010Z	NOISE FILTER	
BK1	LP40077-001A	BRACKET(BOARD)	
SD1	LP30621-001A	SHIELD CASE(S VHS 3D)	
SD2	LP30406-001A	SHIELD PLATE(S VHS)	
CN1001	QGG2503K2-30	HEADER PIN,(1-30)MAIN	
CN1002	QGG2503K2-30	HEADER PIN,(1-30)MAIN	
CN1006	QGA2001F1-06	CONNECTOR,(1-6)DIGITAL	

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TERMINAL BOARD ASSEMBLY <06>

PW1	LPA10071-02B	TERMINAL BOARD ASSY
IC3961	TC7W241FU	IC(DIGITAL)
IC3962	TC7W241FU	IC(DIGITAL)
IC7101	BH7635S	IC

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
IC7102	TC74HC4052AF-XE	IC(DIGITAL)	
IC7103	MM1111XF	IC	
IC7104	BA7623F	IC	
Q7101	UN5211	TRANSISTOR	
	or RN1302	TRANSISTOR	
	or DTC114EU	TRANSISTOR	
	or PDTC114EU	TRANSISTOR	
Q7102	2SD1819A/QRS/-X	TRANSISTOR	
	or 2PC4081/R/-X	TRANSISTOR	
	or 2SC4081/QRS/-X	TRANSISTOR	
Q7103	2SD1819A/QRS/-X	TRANSISTOR	
	or 2SC4081/QRS/-X	TRANSISTOR	
	or 2PC4081/R/-X	TRANSISTOR	
Q7104	2SD1819A/QRS/-X	TRANSISTOR	
	or 2PC4081/R/-X	TRANSISTOR	
	or 2SC4081/QRS/-X	TRANSISTOR	
Q7105	2SD1819A/QRS/-X	TRANSISTOR	
	or 2SC4081/QRS/-X	TRANSISTOR	
	or 2PC4081/R/-X	TRANSISTOR	
Q7106	2SB1218A/QRS/-X	TRANSISTOR	
	or 2SA1576A/QRS/-X	TRANSISTOR	
	or 2PA1576/R/-X	TRANSISTOR	
Q7107	2SB1218A/QRS/-X	TRANSISTOR	
	or 2SA1576A/QRS/-X	TRANSISTOR	
	or 2PA1576/R/-X	TRANSISTOR	
Q7108	2SB1218A/QRS/-X	TRANSISTOR	
	or 2SA1576A/QRS/-X	TRANSISTOR	
	or 2PA1576/R/-X	TRANSISTOR	
D3961	RB721Q-40-T2	SB DIODE	
D3965	RB721Q-40-T2	SB DIODE	
R3961	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3962	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R7101	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R7102	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R7103	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R7104	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R7105	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R7106	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
R7107	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
R7108	NRSA02J-680X	MG RESISTOR	68Ω,1/10W
R7109	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
R7110	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R7111	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R7112	NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
R7113	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R7114	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
R7115	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
R7116	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R7118	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
R7119	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
R7120	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
R7122	NRSA02J-333X	MG RESISTOR	33kΩ,1/10W
R7123	NRSA02J-333X	MG RESISTOR	33kΩ,1/10W
R7124	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R7125	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R7126	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R7127	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R7128	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R7129	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R7130	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R7131	NRSA02J-101X	MG RESISTOR	100Ω,1/10W

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R7132	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
R7133	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R7134	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
R7135	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
R7136	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R7137	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R7138	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
R7139	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
R7140	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
R7141	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
R7142	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
R7143	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
R7144	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R7145	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
R7146	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R7147	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
R7148	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R7149	NRSA02J-333X	MG RESISTOR	33kΩ,1/10W
R7150	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
R7151	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R7152	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
R7153	NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
R7154	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
R7155	NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
R7156	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R7157	QRE141J-103Y	RESISTOR	10kΩ,1/4W
C3961	NCB21EK-104X	CAPACITOR	0.1μF,25V
C7101	NCB21HK-102X	CAPACITOR	0.001μF,50V
C7103	NCB21HK-102X	CAPACITOR	0.001μF,50V
C7105	NCB21HK-681X	CAPACITOR	680pF,50V
C7107	NCB21HK-681X	CAPACITOR	680pF,50V
C7113	NCB21HK-102X	CAPACITOR	0.001μF,50V
C7114	NCB21HK-102X	CAPACITOR	0.001μF,50V
C7115	NCB21HK-681X	CAPACITOR	680pF,50V
C7116	NCB21HK-681X	CAPACITOR	680pF,50V
C7117	QEKJ1CM-476	E CAPACITOR	47μF,16V
C7118	NCB21HK-103X	CAPACITOR	0.01μF,50V
C7119	QEKJ1CM-107	E CAPACITOR	100μF,16V
C7120	NCB21HK-103X	CAPACITOR	0.01μF,50V
C7121	NCB21HK-103X	CAPACITOR	0.01μF,50V
C7126	NCB21HK-102X	CAPACITOR	0.001μF,50V
C7127	NCB21HK-102X	CAPACITOR	0.001μF,50V
C7128	NCB21HK-681X	CAPACITOR	680pF,50V
C7129	NCB21HK-681X	CAPACITOR	680pF,50V
C7130	QEKJ1CM-107	E CAPACITOR	100μF,16V
C7131	QEKJ1CM-476	E CAPACITOR	47μF,16V
C7132	NCB21HK-103X	CAPACITOR	0.01μF,50V
C7133	QEKJ1CM-107	E CAPACITOR	100μF,16V
C7134	NCB21HK-103X	CAPACITOR	0.01μF,50V
C7135	QETJ0JM-477	E CAPACITOR	470μF,6.3V
C7136	NCB21HK-223X	CAPACITOR	0.022μF,50V
C7137	NDC21HJ-330X	CAPACITOR	33pF,50V
C7138	NCB21HK-223X	CAPACITOR	0.022μF,50V
C7139	NCB21HK-223X	CAPACITOR	0.022μF,50V
C7140	NCB21HK-223X	CAPACITOR	0.022μF,50V
C7142	NDC21HJ-330X	CAPACITOR	33pF,50V
C7144	NCB21HK-103X	CAPACITOR	0.01μF,50V
C7145	QEKJ1CM-107	E CAPACITOR	100μF,16V
C7146	NCB21HK-103X	CAPACITOR	0.01μF,50V
C7147	NCB21HK-103X	CAPACITOR	0.01μF,50V
C7148	QEKJ1CM-107	E CAPACITOR	100μF,16V

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		C7149	QEKJ1CM-106	E CAPACITOR	10μF,16V
		C7150	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C7151	QEKJ1CM-106	E CAPACITOR	10μF,16V
		C7152	QEKJ1CM-106	E CAPACITOR	10μF,16V
		L7101	QQL231J-4R7Y	COIL	4.7μH
		L7102	QQL231J-4R7Y	COIL	4.7μH
		L7103	QQL231J-4R7Y	COIL	4.7μH
		L7104	QQL231J-4R7Y	COIL	4.7μH
		L7106	QQL231J-4R7Y	COIL	4.7μH
		L7107	QQL231J-4R7Y	COIL	4.7μH
		L7109	QQL231J-4R7Y	COIL	4.7μH
		L7110	QQL231J-4R7Y	COIL	4.7μH
		L7112	QQL231J-4R7Y	COIL	4.7μH
		L7113	QQL231J-4R7Y	COIL	4.7μH
		L7115	QQL231J-4R7Y	COIL	4.7μH
		L7116	QQL231J-4R7Y	COIL	4.7μH
		L7118	QQL231J-1R0Y	COIL	1μH
		L7120	QQL231J-1R0Y	COIL	1μH
		S7101	QSW0693-001	SLIDE SWITCH	
		ET1	LP30635-001A	EARTH PLATE	
	⚠	TB1	LP20834-001B	TERMINAL BOARD ASSY	
		OT1	QYTDSF3008Z	SCREW,X8	
		J3961	QNS0150-001	2.5 JACK,LANC	
		J7101	PEMC1177	RGB21PIN SOCKET,AV1 I/O	
		J7102	PEMC1177	RGB21PIN SOCKET,AV2/DECODER	
		J7103	QND0009-001	S JACK,S IN	
		J7104	QND0009-001	S JACK,S OUT	
		J7105	QNN0023-003	PIN JACK,A.OUT(L)	
		J7106	QNN0023-002	PIN JACK,A.OUT(R)	
		J7107	QNN0022-003	PIN JACK,A.IN(L)	
		J7108	QNN0022-002	PIN JACK,A.IN(R)	
		J7109	PEMC1190	MINI JACK,JLIP	
		J7110	PU60659	MINI JACK,R.PAUSE	
		CN7101	QGB2024J1-17S	CONNECTOR,(1-17)MAIN	
		CN7102	QGB2024J1-17S	CONNECTOR,(1-17)MAIN	
		CN7103	QGB2024J1-17S	CONNECTOR,(1-17)MAIN	

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AUDIO CONTROL HEAD BOARD ASSEMBLY <12>

PW1	PB40068A-01	A/C HEAD BOARD ASSY
CN1	QGD2001F1-07	CONNECTOR

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DEMOD BOARD ASSEMBLY <14>

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		PW1	LPA10060-01C	DEMOD BOARD ASSY	
		IC6701	TDA9874H/V1-X	IC	
		Q6701	2SC3936/BC/-X	TRANSISTOR	
		D6701	1SV214	DIODE	
		R6701	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R6703	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R6705	NRSA02J-100X	MG RESISTOR	10Ω,1/10W
		R6706	NRSA02J-100X	MG RESISTOR	10Ω,1/10W
		R6707	NRSA02J-3R3X	MG RESISTOR	3.3Ω,1/10W
		R6708	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R6709	NRSA02J-393X	MG RESISTOR	39kΩ,1/10W
		R6710	NRSA02J-393X	MG RESISTOR	39kΩ,1/10W
		R6711	NRSA02J-822X	MG RESISTOR	8.2kΩ,1/10W
		R6713	NRSA02J-100X	MG RESISTOR	10Ω,1/10W
		R6715	NRSA02J-100X	MG RESISTOR	10Ω,1/10W
		R6716	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R6717	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R6719	NRSA02J-3R3X	MG RESISTOR	3.3Ω,1/10W
		R6720	QRE141J-100Y	RESISTOR	10Ω,1/4W
		R6721	NRSA02J-392X	MG RESISTOR	3.9kΩ,1/10W
		R6722	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R6723	NRSA02J-470X	MG RESISTOR	47Ω,1/10W
		R6724	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
		R6725	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R6726	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		C6701	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
		C6702	NCB21HK-682X	CAPACITOR	0.0068μF,50V
		C6703	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
		C6704	NCB21HK-682X	CAPACITOR	0.0068μF,50V
		C6705	NCF21CZ-474X	CAPACITOR	0.47μF,16V
		C6706	NCF21CZ-474X	CAPACITOR	0.47μF,16V
		C6707	NCF21CZ-474X	CAPACITOR	0.47μF,16V
		C6710	QEKJ1HM-334	E CAPACITOR	0.33μF,50V
		C6711	NCB21EK-333X	CAPACITOR	0.033μF,25V
		C6712	NDC21HJ-180X	CAPACITOR	18pF,50V
		C6713	NDC21HJ-180X	CAPACITOR	18pF,50V
		C6716	NCF21CZ-474X	CAPACITOR	0.47μF,16V
		C6718	NCB21EK-224X	CAPACITOR	0.22μF,25V
		C6719	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C6720	QEKJ1HM-105	E CAPACITOR	1μF,50V
		C6722	NCF21CZ-474X	CAPACITOR	0.47μF,16V
		C6723	NDC21HJ-101X	CAPACITOR	100pF,50V
		C6724	NDC21HJ-101X	CAPACITOR	100pF,50V
		C6728	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C6729	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
		C6730	QEKJ1CM-476	E CAPACITOR	47μF,16V
		C6731	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C6732	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C6733	NCB21HK-222X	CAPACITOR	0.0022μF,50V
		C6734	NCB21HK-103X	CAPACITOR	0.01μF,50V
		L6701	QQL231J-3R3Y	COIL	3.3μH
		L6702	QQL231J-1R0Y	COIL	1μH
		L6703	QQL231J-3R3Y	COIL	3.3μH
		X6701	QAX0560-001	CRYSTAL RESONATOR	
		K6701	NQR0200-003X	FERRITE BEAD	
		K6702	NQR0200-003X	FERRITE BEAD	
		K6703	NQR0200-003X	FERRITE BEAD	
		K6704	NQR0200-003X	FERRITE BEAD	
		K6705	NQR0200-003X	FERRITE BEAD	
		K6706	NQR0200-003X	FERRITE BEAD	
		K6707	NQR0200-003X	FERRITE BEAD	
		BK1	LP40077-001A	BRACKET(BOARD)	
		CN6701	QGG2502K1-10	HEADER PIN	

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DISPLAY BOARD ASSEMBLY <28>

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
PW1	LPA10079-01D1	DISPLAY BOARD ASSY	
IC7001	M35500BFP	IC	
	or M35500AGP	IC	
	or M35500BGP	IC	
IC7002	GP1U281X	IR DETECT UNIT	
	or PNA4652M00XB	IR DETECT UNIT	
Q7001	DTA114ES	TRANSISTOR	
Q7002	DTA114ES	TRANSISTOR	
Q7003	DTA114ES	TRANSISTOR	
D7002	RD9.1ES/B2/-T2	ZENER DIODE	
	or UZ9.1BSB	ZENER DIODE	
	or MTZJ9.1B	ZENER DIODE	
D7004	1SS133	DIODE	
D7005	1SS133	DIODE	
D7006	1SS133	DIODE	
R7001	QRE141J-471Y	RESISTOR	470Ω,1/4W
R7002	QRE141J-471Y	RESISTOR	470Ω,1/4W
R7003	QRE141J-471Y	RESISTOR	470Ω,1/4W
R7004	QRE141J-471Y	RESISTOR	470Ω,1/4W
R7005	QRE141J-823Y	RESISTOR	82kΩ,1/4W
R7007	QRE141J-823Y	RESISTOR	82kΩ,1/4W
R7013	QRE141J-823Y	RESISTOR	82kΩ,1/4W
R7014	QRE141J-823Y	RESISTOR	82kΩ,1/4W
R7015	QRE141J-103Y	RESISTOR	10kΩ,1/4W
R7026	QRE141J-223Y	RESISTOR	22kΩ,1/4W
C7001	QCFB1HZ-104	CAPACITOR	0.1μF,50V
C7002	QEKJ1HM-106	E CAPACITOR	10μF,50V
C7007	QEKJ0JM-476	E CAPACITOR	47μF,6.3V
C7009	QCSB1HJ-150	CAPACITOR	15pF,50V
C7010	QCC11EJ-104	CAPACITOR	0.1μF,25V
C7011	QEKJ0JM-227	E CAPACITOR	220μF,6.3V
C7019	QDVB1EZ-223Y	CAPACITOR	0.022μF,25V
C7020	QCC11EK-104	CAPACITOR	0.1μF,25V
C7021	QCC11EK-104	CAPACITOR	0.1μF,25V
DI7001	QLF0032-002	FL TUBE	
HD1	LP30428-001A	FDP HOLDER(L),DI7001	
HD2	LP30429-001A	FDP HOLDER(R),DI7001	
CN7001	QGF1208F1-22	FPC CONNECTOR,(1-22)MAIN	
CN7002	QGA2001C1-05	CONNECTOR,(1-5)REG	
CN7003	QGB2003M1-04	CONNECTOR,(1-4)JACK	
CN7004	PU60329-122	CONNECTOR,(1-22)OPERATION	

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REC SAFETY BOARD ASSEMBLY <32>

PW4	LPA10079-01A4	REC SAFETY BOARD ASSY	
S7051	PESW0589	PUSH SWITCH	
FW7001	QUM062-07A4A4	PARA RIBON WIRE	

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CASS SW BOARD ASSEMBLY <33>

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
PW3	LPA10079-01A3	CASSETTE SW BOARD ASSY	
S7052	PESW0674	PUSH SWITCH	
S7053	PESW0674	PUSH SWITCH	
FW7002	QUM063-07A4A4	PARA RIBON WIRE	

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JACK BOARD ASSEMBLY <36>

PW2	LPA10079-01A2	JACK BOARD ASSY	
R7102	QRE141J-0R0Y	RESISTOR	0Ω,1/4W
R7105	QRE141J-103Y	RESISTOR	10kΩ,1/4W
R7106	QRE141J-103Y	RESISTOR	10kΩ,1/4W
C7102	QCBB1HJ-681	CAPACITOR	680pF,50V
C7104	QCBB1HJ-681	CAPACITOR	680pF,50V
L7101	QRE141J-101Y	RESISTOR	100Ω,1/4W
L7102	QRE141J-101Y	RESISTOR	100Ω,1/4W
S7101	PESW0550	SLIDE SWITCH	
J7101	PEMC1126-04	PIN JACK,VIDEO IN	
J7102	PEMC0922-03	PIN JACK(SW),AUDIO(L)IN	
J7103	PEMC0922-02	PIN JACK(SW),AUDIO(R)IN	
J7104	QND0010-001	S JACK,S IN	
CN7101	QGF1208F1-08	FPC CONNECTOR,(1-8)MAIN	
CN7102	PU60329-112	FFC CONNECTOR,(1-12)OPERATION	
CN7103	QGB2003L1-04	CONNECTOR,(1-4)	

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PRE/REC BOARD ASSEMBLY <43>

PW1	LPA10072-01A	PRE/REC BOARD ASSY	
IC601	JCP0024	IC	
IC602	TC7W66F	IC(DIGITAL)	
IC2271	AN3328S	IC	
Q601	2SA1532/C/-X	TRANSISTOR	
Q602	2SA1532/C/-X	TRANSISTOR	
Q603	2SC4226/4/-X	TRANSISTOR	
Q604	2SD1819A/QRS/-X	TRANSISTOR	
	or 2PC4081/R/-X	TRANSISTOR	
	or 2SC4081/QRS/-X	TRANSISTOR	
Q605	2SD1819A/QRS/-X	TRANSISTOR	
	or 2SC4081/QRS/-X	TRANSISTOR	
	or 2PC4081/R/-X	TRANSISTOR	
Q606	2SC4226/4/-X	TRANSISTOR	
Q607	2SD1819A/QRS/-X	TRANSISTOR	
	or 2SC4081/QRS/-X	TRANSISTOR	
	or 2PC4081/R/-X	TRANSISTOR	
Q608	2SD1819A/QRS/-X	TRANSISTOR	
	or 2PC4081/R/-X	TRANSISTOR	
	or 2SC4081/QRS/-X	TRANSISTOR	
Q609	2SD1819A/QRS/-X	TRANSISTOR	

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION
	or 2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
Q610	2SC3930/C/-X	TRANSISTOR
Q611	2SD1819A/QRS/-X	TRANSISTOR
	or 2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
Q612	2SC3930/C/-X	TRANSISTOR
Q613	2SC4670	TRANSISTOR
Q614	2SD1819A/QRS/-X	TRANSISTOR
	or 2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
Q615	2SD1819A/QRS/-X	TRANSISTOR
	or 2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
Q616	2SC3930/C/-X	TRANSISTOR
Q617	2SC4670	TRANSISTOR
Q618	2SD1819A/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
	or 2SC4081/QRS/-X	TRANSISTOR
Q619	2SD1819A/QRS/-X	TRANSISTOR
	or 2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
Q620	2SB1218A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
	or 2SA1576A/QR/-X	TRANSISTOR
Q621	UN5111	TRANSISTOR
	or DTA114EU	TRANSISTOR
	or PDTA114EU	TRANSISTOR
	or RN2302	TRANSISTOR
Q622	UN5211	TRANSISTOR
	or DTC114EU	TRANSISTOR
	or PDTC114EU	TRANSISTOR
	or RN1302	TRANSISTOR
Q623	UN5111	TRANSISTOR
	or DTA114EU	TRANSISTOR
	or PDTA114EU	TRANSISTOR
	or RN2302	TRANSISTOR
Q624	UN5211	TRANSISTOR
	or DTC114EU	TRANSISTOR
	or PDTC114EU	TRANSISTOR
	or RN1302	TRANSISTOR
Q625	UN5111	TRANSISTOR
	or DTA114EU	TRANSISTOR
	or PDTA114EU	TRANSISTOR
	or RN2302	TRANSISTOR
Q1701	2SA1576A/QR/-X	TRANSISTOR
Q1702	2SA1576A/QR/-X	TRANSISTOR
Q1703	UN521E	TRANSISTOR
	or PDTC144WU	TRANSISTOR
	or RN1309	TRANSISTOR
	or DTC144WU	TRANSISTOR
Q1704	2SB1218A/QR/-X	TRANSISTOR
	or 2SA1576A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
Q1705	UN521E	TRANSISTOR
	or RN1309	TRANSISTOR
	or PDTC144WU	TRANSISTOR
	or DTC144WU	TRANSISTOR
Q1706	UN521E	TRANSISTOR
	or RN1309	TRANSISTOR
	or PDTC144WU	TRANSISTOR

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
	or DTC144WU	TRANSISTOR	
Q2271	UN511E	TRANSISTOR	
	or RN2309	TRANSISTOR	
	or DTA144WU	TRANSISTOR	
	or PDTA144WU	TRANSISTOR	
Q2272	UN521E	TRANSISTOR	
	or RN1309	TRANSISTOR	
	or DTC144WU	TRANSISTOR	
	or PDTC144WU	TRANSISTOR	
Q2273	UN521E	TRANSISTOR	
	or RN1309	TRANSISTOR	
	or DTC144WU	TRANSISTOR	
	or PDTC144WU	TRANSISTOR	
Q2277	2SD1819A/QRS/-X	TRANSISTOR	
	or 2SC4081/QRS/-X	TRANSISTOR	
	or 2PC4081/R/-X	TRANSISTOR	
Q2278	2SD1819A/QRS/-X	TRANSISTOR	
	or 2PC4081/R/-X	TRANSISTOR	
	or 2SC4081/QRS/-X	TRANSISTOR	
Q2279	UN5111	TRANSISTOR	
	or PDTA114EU	TRANSISTOR	
	or RN2302	TRANSISTOR	
	or DTA114EU	TRANSISTOR	
Q2280	2SD1819A/QRS/-X	TRANSISTOR	
	or 2SC4081/QRS/-X	TRANSISTOR	
	or 2PC4081/R/-X	TRANSISTOR	
Q2281	UN5111	TRANSISTOR	
	or RN2302	TRANSISTOR	
	or DTA114EU	TRANSISTOR	
	or PDTA114EU	TRANSISTOR	
Q2282	UN5111	TRANSISTOR	
	or RN2302	TRANSISTOR	
	or DTA114EU	TRANSISTOR	
	or PDTA114EU	TRANSISTOR	
Q2283	UN521E	TRANSISTOR	
	or RN1309	TRANSISTOR	
	or PDTC144WU	TRANSISTOR	
	or DTC144WU	TRANSISTOR	
D601	1SS133	DIODE	
D602	1SS133	DIODE	
D603	1SS133	DIODE	
R601	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R602	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R603	NRVA02D-100X	CMF RESISTOR	10Ω,1/10W
R604	NRVA02D-100X	CMF RESISTOR	10Ω,1/10W
R605	NRSA02J-154X	MG RESISTOR	150kΩ,1/10W
R606	NRSA02J-391X	MG RESISTOR	390Ω,1/10W
R607	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R608	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R609	NRSA02J-331X	MG RESISTOR	330Ω,1/10W
R610	NRSA02J-154X	MG RESISTOR	150kΩ,1/10W
R611	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R612	NRSA02J-334X	MG RESISTOR	330kΩ,1/10W
R613	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R614	NRSA02J-151X	MG RESISTOR	150Ω,1/10W
R615	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
R616	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R617	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R618	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R619	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R620	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	R621	NRSA02J-563X	MG RESISTOR	56kΩ,1/10W
	R622	NRSA02J-153X	MG RESISTOR	15kΩ,1/10W
	R624	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R625	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R626	NRSA02J-151X	MG RESISTOR	150Ω,1/10W
	R627	NRSA02J-560X	MG RESISTOR	56Ω,1/10W
	R628	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
	R629	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
	R630	NRSA02J-122X	MG RESISTOR	1.2kΩ,1/10W
	R631	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R632	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R633	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R634	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
	R635	NRVA02D-330X	CMF RESISTOR	33Ω,1/10W
	R636	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
	R637	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
	R638	NRSA02J-470X	MG RESISTOR	47Ω,1/10W
	R639	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
	R640	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
	R641	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R642	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
	R643	NRSA02J-153X	MG RESISTOR	15kΩ,1/10W
	R644	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R645	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
	R646	NRVA02D-330X	CMF RESISTOR	33Ω,1/10W
	R647	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
	R648	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
	R649	NRSA02J-470X	MG RESISTOR	47Ω,1/10W
	R650	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
	R651	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
	R652	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R653	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
	R654	NRSA02J-153X	MG RESISTOR	15kΩ,1/10W
	R655	NRSA02J-151X	MG RESISTOR	150Ω,1/10W
	R656	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
	R657	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
	R658	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
	R659	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
	R660	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
	R1701	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
	R1702	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
	R1703	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
	R1704	NRSA02J-393X	MG RESISTOR	39kΩ,1/10W
	R1705	NRSA02J-683X	MG RESISTOR	68kΩ,1/10W
	R1706	NRSA02J-393X	MG RESISTOR	39kΩ,1/10W
	R1707	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
	R1708	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
	R2271	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
⚠	R2272	NRSA02J-220X	MG RESISTOR	22Ω,1/10W
⚠	R2273	NRSA02J-220X	MG RESISTOR	22Ω,1/10W
	R2274	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R2275	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
	R2277	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R2278	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
	R2283	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
	R2284	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
	R2285	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R2286	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
	R2287	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R2288	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R2289	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	R2290	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R2291	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R2292	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R2293	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R2295	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	VR2271	QVZ3521-102Z	V RESISTOR,FMA REC LEVEL	
	VR6021	QVZ3521-101Z	V RESISTOR,DVHS REC LEVEL	
	C601	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C602	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C603	NCB21AK-105X	CAPACITOR	1μF,10V
	C604	QEKJ0JM-107	E CAPACITOR	100μF,6.3V
	C605	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C606	NCB21AK-105X	CAPACITOR	1μF,10V
	C607	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C608	NCB21AK-105X	CAPACITOR	1μF,10V
	C609	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C610	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C611	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C612	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C613	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C614	QEKJ0JM-107	E CAPACITOR	100μF,6.3V
	C615	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C616	QEKJ0JM-107	E CAPACITOR	100μF,6.3V
	C617	NCB21HK-102X	CAPACITOR	0.001μF,50V
	C619	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C620	NCB21HK-102X	CAPACITOR	0.001μF,50V
	C621	NDC21HJ-471X	CAPACITOR	470pF,50V
	C623	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C624	QEKJ1CM-107	E CAPACITOR	100μF,16V
	C625	NCB21AK-105X	CAPACITOR	1μF,10V
	C626	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C627	NCB21AK-105X	CAPACITOR	1μF,10V
	C628	NCB21AK-105X	CAPACITOR	1μF,10V
	C629	NCB21AK-105X	CAPACITOR	1μF,10V
	C630	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C631	NCB21AK-105X	CAPACITOR	1μF,10V
	C632	NCB21AK-105X	CAPACITOR	1μF,10V
	C633	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C634	NCB21AK-105X	CAPACITOR	1μF,10V
	C636	QEKJ0JM-107	E CAPACITOR	100μF,6.3V
	C640	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C641	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C642	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C1701	NCB21HK-223X	CAPACITOR	0.022μF,50V
	C1702	NDC21HJ-470X	CAPACITOR	47pF,50V
	C1703	NDC21HJ-470X	CAPACITOR	47pF,50V
	C1704	NDC21HJ-101X	CAPACITOR	100pF,50V
	C1705	NCB21HK-102X	CAPACITOR	0.001μF,50V
	C1706	NDC21HJ-150X	CAPACITOR	15pF,50V
	C1707	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C1708	QEKJ1CM-106	E CAPACITOR	10μF,16V
	C1709	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C2271	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C2272	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C2273	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C2274	QEKJ1CM-476	E CAPACITOR	47μF,16V
	C2275	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C2276	NDC21HJ-101X	CAPACITOR	100pF,50V
	C2277	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C2278	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C2279	NCB21HK-223X	CAPACITOR	0.022μF,50V

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
C2280	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
C2282	NDC21HJ-121X	CAPACITOR	120pF,50V
C2285	NCB21HK-103X	CAPACITOR	0.01µF,50V
C2286	NCB21HK-103X	CAPACITOR	0.01µF,50V
C2287	NCB21HK-103X	CAPACITOR	0.01µF,50V
L601	QQL29BJ-100Z	COIL	10µH
L602	QQL29BJ-100Z	COIL	10µH
L603	QQL29BJ-100Z	COIL	10µH
L604	QQL29BJ-101Z	COIL	100µH
L605	QQL29BJ-101Z	COIL	100µH
L1701	QQL01BJ-150Z	COIL	15µH
L1702	QQL29BJ-101Z	COIL	100µH
L2271	QQL29BJ-100Z	COIL	10µH
L2272	QQL231J-1R8Y	COIL	1.8µH
SD1	PQ21805-2	SHIELD FLAME	
CN601	QNN0161-001	PIN JACK,REC_DATA	
CN602	QNN0161-001	PIN JACK,PB_DATA	
CN603	QGB2024J1-09S	CONNECTOR,(1-9)MAIN	
CN604	QGB2024J1-10S	CONNECTOR,(1-10)MAIN	
CN605	QGF1202C1-07	FPC CONNECTOR,(1-7)U.DRUM	

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DIGITAL BOARD ASSEMBLY <50>

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION
PW1	LPA10084-01G	DIGITAL BOARD ASSY
IC8001	JCP8005	IC(DIGITAL)
IC8002	GLT441L16-40TC	IC
	or MN41V4260TT-A07	IC(DIGITAL)
IC8101	JCP8009	IC
IC8102	TLC2932	IC
IC8110	TC7SH04FU	IC(DIGITAL)
IC8111	TC7SH08FU	IC(DIGITAL)
IC8401	DVXPLOREPB308B0	IC
IC8402	KM416S1120DT-G8	IC
	or HY57V161610DTC8	IC
IC8403	KM416S1120DT-G8	IC
	or HY57V161610DTC8	IC
IC8404	KM416S1120DT-G8	IC
	or HY57V161610DTC8	IC
IC8405	KM416S1120DT-G8	IC
	or HY57V161610DTC8	IC
IC8406	TC7SHU04FU	IC(DIGITAL)
IC8407	TC7SHU04FU	IC(DIGITAL)
IC8601	JCP8019	IC
IC8602	MS81V04160-25TB	IC
	or MS81V04160-30TB	IC
IC9001	MN1030F04KHFFP	IC
IC9002	S-80727AN-DQ-X	IC
IC9003	AT25080N-10SC-X	IC
IC9004	SN74LV573APW	IC
IC9005	SN74LV573APW	IC
IC9006	SN74LV573APW	IC
IC9007	MBV800TA10PT	IC(MICRO C ROM)
	or MBV800TA90PT	IC(MICRO C ROM)
IC9008	UPD43256BGWA85	IC
IC9009	SN74HCT08APW	IC
IC9010	SN74HCT08APW	IC
IC9011	SN74HCT08APW	IC
IC9012	SN74LV08APW	IC
IC9013	SN74LV08APW	IC
IC9014	TC7W32FU	IC(DIGITAL)
IC9015	TC74HC4066AFT	IC(DIGITAL)
IC9016	TC7S14FU	IC(DIGITAL)
IC9017	TC7SH04FU	IC(DIGITAL)
IC9301	JCP8023	IC
IC9302	KM416S1120DT-G8	IC
	or HY57V161610DTC8	IC
IC9303	BA10358F-XE	IC
IC9304	NAX0373-001X	CXO
IC9305	SN74LVCU04APW	IC(DIGITAL)
IC9307	SN74LVCU04APW	IC(DIGITAL)
IC9308	TC7SHU04FU	IC(DIGITAL)
IC9309	TC7SHU04FU	IC(DIGITAL)
IC9310	TC7SH86FU	IC(DIGITAL)
IC9601	JCP8025	IC
IC9603	TMS320C31PQL60	IC
IC9801	AK4518-VF-X	IC
IC9802	BA15218F-XE	IC
IC9803	BA15218F-XE	IC
Q8101	UMT2N	PAIR TRANSISTOR
Q8102	UMT2N	PAIR TRANSISTOR
Q8103	UMW2N	PAIR TRANSISTOR
Q8104	2SC3930/C/-X	TRANSISTOR
Q8105	2SA1532/C/-X	TRANSISTOR
Q8106	2SD1819A/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
	or 2SC4081/QRS/-X	TRANSISTOR
Q8107	2SD1819A/QRS/-X	TRANSISTOR
	or 2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
Q8108	2SD1819A/QRS/-X	TRANSISTOR
	or 2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
Q8109	2SC3930/C/-X	TRANSISTOR
Q8110	2SC3930/C/-X	TRANSISTOR
Q8111	2SA1532/C/-X	TRANSISTOR
Q8112	2SC4670	TRANSISTOR
Q8115	2SD1819A/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
	or 2SC4081/QRS/-X	TRANSISTOR
Q8120	2SD1819A/QRS/-X	TRANSISTOR
	or 2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
Q8121	2SD1819A/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
	or 2SC4081/QRS/-X	TRANSISTOR
Q8601	2SD1819A/QRS/-X	TRANSISTOR
	or 2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
Q8602	2SB1218A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
	or 2SA1576A/QR/-X	TRANSISTOR
Q8603	2SD1819A/QRS/-X	TRANSISTOR
	or 2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
Q8604	2SB1218A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
	or 2SA1576A/QR/-X	TRANSISTOR

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION
Q8605	2SB1218A/QR/-X	TRANSISTOR
	or 2SA1576A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
Q8606	2SD1819A/RS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
	or 2SC4081/RS/-X	TRANSISTOR
Q8607	2SD1819A/QRS/-X	TRANSISTOR
	or 2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
Q8608	2SD1819A/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
	or 2SC4081/QRS/-X	TRANSISTOR
Q8609	2SD1819A/QRS/-X	TRANSISTOR
	or 2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
Q8610	2SD1819A/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
	or 2SC4081/QRS/-X	TRANSISTOR
Q8611	2SD1819A/QRS/-X	TRANSISTOR
	or 2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
Q8612	2SB1218A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
	or 2SA1576A/QR/-X	TRANSISTOR
Q8613	2SD1819A/QRS/-X	TRANSISTOR
	or 2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
Q8614	2SB1218A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
	or 2SA1576A/QR/-X	TRANSISTOR
Q8615	2SD1819A/QRS/-X	TRANSISTOR
	or 2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
Q8616	2SB1218A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
	or 2SA1576A/QR/-X	TRANSISTOR
Q8627	2SB1218A/QR/-X	TRANSISTOR
	or 2SA1576A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
Q8628	2SD1819A/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
	or 2SC4081/QRS/-X	TRANSISTOR
Q8629	2SB1218A/QR/-X	TRANSISTOR
	or 2SA1576A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
Q8630	2SD1819A/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
	or 2SC4081/QRS/-X	TRANSISTOR
Q8631	2SB1218A/QR/-X	TRANSISTOR
	or 2SA1576A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
Q8632	DTC144EU	TRANSISTOR
Q8633	2SD1819A/QRS/-X	TRANSISTOR
	or 2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
Q8634	2SD1819A/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
	or 2SC4081/QRS/-X	TRANSISTOR
Q8635	2SD1819A/QRS/-X	TRANSISTOR
	or 2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
Q8636	2SD1819A/QRS/-X	TRANSISTOR	
	or 2PC4081/R/-X	TRANSISTOR	
	or 2SC4081/QRS/-X	TRANSISTOR	
Q8637	2SD1819A/QRS/-X	TRANSISTOR	
	or 2SC4081/QRS/-X	TRANSISTOR	
	or 2PC4081/R/-X	TRANSISTOR	
Q9001	DTC144EE	TRANSISTOR	
Q9002	DTC144EE	TRANSISTOR	
Q9301	DTA114ES	TRANSISTOR	
Q9617	2SB1302/ST/-X	TRANSISTOR	
Q9618	DTC144EE	TRANSISTOR	
Q9801	DTA144WU	TRANSISTOR	
Q9802	DTC144WU	TRANSISTOR	
Q9803	2SC4081/QRS/-X	TRANSISTOR	
Q9804	2SC4081/QRS/-X	TRANSISTOR	
D8001	1SS357	SB DIODE	
D8601	1SS355	DIODE	
D9001	DAN202U	DIODE	
D9002	1SS355	DIODE	
D9003	1SS355	DIODE	
D9004	1SS355	DIODE	
D9301	MA304	VARI CAP DIODE	
R8001	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
R8002	NRSA63J-470X	MG RESISTOR	47Ω,1/16W
R8003	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R8004	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R8005	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
R8006	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R8007	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R8008	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R8013	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
R8101	NRSA63J-220X	MG RESISTOR	22Ω,1/16W
R8102	NRSA63J-151X	MG RESISTOR	150Ω,1/16W
R8103	NRSA63J-220X	MG RESISTOR	22Ω,1/16W
R8104	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
R8105	NRSA63J-562X	MG RESISTOR	5.6kΩ,1/16W
R8112	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
R8113	NRSA63J-391X	MG RESISTOR	390Ω,1/16W
R8122	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R8123	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R8125	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R8126	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R8127	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
R8128	NRSA63J-152X	MG RESISTOR	1.5kΩ,1/16W
R8129	NRSA63J-152X	MG RESISTOR	1.5kΩ,1/16W
R8130	NRSA63J-471X	MG RESISTOR	470Ω,1/16W
R8131	NRSA63J-471X	MG RESISTOR	470Ω,1/16W
R8132	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
R8134	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
R8135	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R8136	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R8137	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
R8141	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
R8146	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R8147	NRSA63J-392X	MG RESISTOR	3.9kΩ,1/16W
R8151	NRSA63J-750X	MG RESISTOR	75Ω,1/16W
R8152	NRSA63J-333X	MG RESISTOR	33kΩ,1/16W
R8153	NRSA63J-123X	MG RESISTOR	12kΩ,1/16W
R8154	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R8155	NRSA63J-561X	MG RESISTOR	560Ω,1/16W
R8156	NRSA63J-101X	MG RESISTOR	100Ω,1/16W

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		R8157	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
		R8158	NRSA63J-272X	MG RESISTOR	2.7kΩ,1/16W
		R8159	NRSA63J-681X	MG RESISTOR	680Ω,1/16W
		R8160	NRSA63J-331X	MG RESISTOR	330Ω,1/16W
		R8161	NRSA63J-331X	MG RESISTOR	330Ω,1/16W
		R8162	NRSA63J-153X	MG RESISTOR	15kΩ,1/16W
		R8163	NRSA63J-752X	MG RESISTOR	7.5kΩ,1/16W
		R8165	NRSA63J-391X	MG RESISTOR	390Ω,1/16W
		R8166	NRSA63J-471X	MG RESISTOR	470Ω,1/16W
		R8167	NRSA63J-153X	MG RESISTOR	15kΩ,1/16W
		R8171	NRSA63J-152X	MG RESISTOR	1.5kΩ,1/16W
		R8172	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
		R8173	NRSA63J-182X	MG RESISTOR	1.8kΩ,1/16W
		R8174	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R8175	NRSA63J-471X	MG RESISTOR	470Ω,1/16W
		R8176	NRSA63J-681X	MG RESISTOR	680Ω,1/16W
		R8177	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R8178	NRSA63J-471X	MG RESISTOR	470Ω,1/16W
		R8179	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R8180	NRSA63J-681X	MG RESISTOR	680Ω,1/16W
		R8181	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R8183	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
		R8184	NRSA63J-750X	MG RESISTOR	75Ω,1/16W
		R8185	NRSA63J-272X	MG RESISTOR	2.7kΩ,1/16W
		R8186	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R8231	NRVA63D-202X	CMF RESISTOR	2kΩ,1/16W
		R8232	NRVA63D-202X	CMF RESISTOR	2kΩ,1/16W
		R8233	NRVA63D-202X	CMF RESISTOR	2kΩ,1/16W
		R8234	NRVA63D-202X	CMF RESISTOR	2kΩ,1/16W
		R8235	NRVA63D-202X	CMF RESISTOR	2kΩ,1/16W
		R8236	NRVA63D-102X	CMF RESISTOR	1kΩ,1/16W
		R8237	NRVA63D-102X	CMF RESISTOR	1kΩ,1/16W
		R8238	NRVA63D-102X	CMF RESISTOR	1kΩ,1/16W
		R8239	NRVA63D-102X	CMF RESISTOR	1kΩ,1/16W
		R8249	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
		R8250	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R8251	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R8252	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R8253	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R8254	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R8255	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R8256	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R8257	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R8258	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R8260	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
		R8261	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
		R8401	NRSA63J-750X	MG RESISTOR	75Ω,1/16W
		R8402	NRSA63J-750X	MG RESISTOR	75Ω,1/16W
		R8403	NRSA63J-750X	MG RESISTOR	75Ω,1/16W
		R8404	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R8405	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R8406	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R8407	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
		R8408	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R8409	NRSA63J-750X	MG RESISTOR	75Ω,1/16W
		R8410	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R8411	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R8412	NRSA63J-750X	MG RESISTOR	75Ω,1/16W
		R8413	NRSA63J-750X	MG RESISTOR	75Ω,1/16W
		R8414	NRSA63J-750X	MG RESISTOR	75Ω,1/16W
		R8415	NRSA63J-750X	MG RESISTOR	75Ω,1/16W
		R8416	NRSA63J-750X	MG RESISTOR	75Ω,1/16W
		R8417	NRSA63J-750X	MG RESISTOR	75Ω,1/16W
		R8418	NRSA63J-750X	MG RESISTOR	75Ω,1/16W
		R8419	NRSA63J-750X	MG RESISTOR	75Ω,1/16W
		R8420	NRSA63J-750X	MG RESISTOR	75Ω,1/16W
		R8421	NRSA63J-750X	MG RESISTOR	75Ω,1/16W
		R8422	NRSA63J-750X	MG RESISTOR	75Ω,1/16W
		R8423	NRSA63J-750X	MG RESISTOR	75Ω,1/16W
		R8424	NRSA63J-750X	MG RESISTOR	75Ω,1/16W
		R8425	NRSA63J-750X	MG RESISTOR	75Ω,1/16W
		R8426	NRSA63J-750X	MG RESISTOR	75Ω,1/16W
		R8427	NRSA63J-750X	MG RESISTOR	75Ω,1/16W
		R8428	NRSA63J-750X	MG RESISTOR	75Ω,1/16W
		R8429	NRSA63J-750X	MG RESISTOR	75Ω,1/16W
		R8433	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
		R8434	NRSA63J-470X	MG RESISTOR	47Ω,1/16W
		R8436	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R8601	NRSA63J-393X	MG RESISTOR	39kΩ,1/16W
		R8602	NRSA63J-273X	MG RESISTOR	27kΩ,1/16W
		R8603	NRSA63J-821X	MG RESISTOR	820Ω,1/16W
		R8606	NRSA63J-821X	MG RESISTOR	820Ω,1/16W
		R8607	NRSA63J-391X	MG RESISTOR	390Ω,1/16W
		R8608	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R8609	NRSA63J-821X	MG RESISTOR	820Ω,1/16W
		R8610	NRSA63J-183X	MG RESISTOR	18kΩ,1/16W
		R8611	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
		R8612	NRSA63J-471X	MG RESISTOR	470Ω,1/16W
		R8613	NRSA63J-183X	MG RESISTOR	18kΩ,1/16W
		R8614	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
		R8615	NRSA63J-471X	MG RESISTOR	470Ω,1/16W
		R8616	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R8617	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
		R8618	NRSA63J-273X	MG RESISTOR	27kΩ,1/16W
		R8619	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R8620	NRSA63J-183X	MG RESISTOR	18kΩ,1/16W
		R8621	NRSA63J-821X	MG RESISTOR	820Ω,1/16W
		R8622	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
		R8623	NRSA63J-152X	MG RESISTOR	1.5kΩ,1/16W
		R8624	NRSA63J-183X	MG RESISTOR	18kΩ,1/16W
		R8625	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
		R8626	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R8627	NRSA63J-331X	MG RESISTOR	330Ω,1/16W
		R8628	NRSA63J-331X	MG RESISTOR	330Ω,1/16W
		R8629	NRSA63J-821X	MG RESISTOR	820Ω,1/16W
		R8630	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
		R8631	NRSA63J-821X	MG RESISTOR	820Ω,1/16W
		R8632	NRSA63J-183X	MG RESISTOR	18kΩ,1/16W
		R8633	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R8634	NRSA63J-391X	MG RESISTOR	390Ω,1/16W
		R8635	NRSA63J-561X	MG RESISTOR	560Ω,1/16W
		R8637	NRSA63J-821X	MG RESISTOR	820Ω,1/16W
		R8638	NRSA63J-821X	MG RESISTOR	820Ω,1/16W
		R8639	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
		R8640	NRSA63J-273X	MG RESISTOR	27kΩ,1/16W
		R8641	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R8642	NRVA63D-750X	CMF RESISTOR	75Ω,1/16W
		R8656	NRVA63D-820X	CMF RESISTOR	82Ω,1/16W
		R8670	NRVA63D-820X	CMF RESISTOR	82Ω,1/16W
		R8671	NRSA63J-821X	MG RESISTOR	820Ω,1/16W
		R8672	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
		R8673	NRSA63J-821X	MG RESISTOR	820Ω,1/16W

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R8674	NRSA63J-183X	MG RESISTOR	18kΩ,1/16W
R8675	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R8676	NRSA63J-391X	MG RESISTOR	390Ω,1/16W
R8677	NRSA63J-561X	MG RESISTOR	560Ω,1/16W
R8679	NRSA63J-821X	MG RESISTOR	820Ω,1/16W
R8680	NRSA63J-821X	MG RESISTOR	820Ω,1/16W
R8681	NRSA63J-273X	MG RESISTOR	27kΩ,1/16W
R8682	NRSA63J-273X	MG RESISTOR	27kΩ,1/16W
R8683	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R8684	NRVA63D-151X	CMF RESISTOR	150Ω,1/16W
R8685	NRVA63D-681X	CMF RESISTOR	680Ω,1/16W
R8686	NRVA63D-271X	CMF RESISTOR	270Ω,1/16W
R8687	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R8688	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R8689	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
R8690	NRSA63J-680X	MG RESISTOR	68Ω,1/16W
R8691	NRVA63D-182X	CMF RESISTOR	1.8kΩ,1/16W
R8692	NRVA63D-242X	CMF RESISTOR	2.4kΩ,1/16W
R8693	NRVA63D-152X	CMF RESISTOR	1.5kΩ,1/16W
R8694	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R8695	NRSA63J-122X	MG RESISTOR	1.2kΩ,1/16W
R8698	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R8702	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R8703	NRSA63J-180X	MG RESISTOR	18Ω,1/16W
R8705	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R8707	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R8710	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
R8711	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
R8712	NRVA63D-152X	CMF RESISTOR	1.5kΩ,1/16W
R8713	NRVA63D-242X	CMF RESISTOR	2.4kΩ,1/16W
R8714	NRVA63D-182X	CMF RESISTOR	1.8kΩ,1/16W
R8719	NRSA63J-681X	MG RESISTOR	680Ω,1/16W
R8720	NRSA63J-821X	MG RESISTOR	820Ω,1/16W
R8721	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
R9002	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R9004	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R9005	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R9006	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R9007	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R9008	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R9012	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R9013	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R9014	NRSA63J-331X	MG RESISTOR	330Ω,1/16W
R9016	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R9020	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R9021	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R9023	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R9024	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R9025	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R9027	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R9028	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
R9029	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
R9032	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
R9033	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
R9034	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R9035	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
R9036	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R9037	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R9038	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
R9039	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R9040	NRSA63J-221X	MG RESISTOR	220Ω,1/16W

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R9041	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R9042	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R9043	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
R9044	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R9045	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
R9046	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
R9047	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R9048	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
R9049	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R9050	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
R9051	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
R9052	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
R9055	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R9056	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R9057	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R9058	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
R9059	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R9060	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R9061	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R9062	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
R9063	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
R9064	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R9065	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
R9066	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
R9067	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
R9068	NRSA63J-471X	MG RESISTOR	470Ω,1/16W
R9069	NRSA63J-471X	MG RESISTOR	470Ω,1/16W
R9072	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R9073	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R9074	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R9075	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R9076	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R9077	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R9078	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R9079	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R9080	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R9081	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R9082	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R9083	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R9084	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R9085	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R9086	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R9087	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R9088	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
R9089	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R9090	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R9092	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R9093	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R9094	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R9095	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R9096	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R9097	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R9098	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R9101	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R9102	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R9103	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R9104	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R9106	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R9108	NRSA63J-331X	MG RESISTOR	330Ω,1/16W
R9109	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R9110	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		R9111	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R9112	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R9113	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R9114	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R9116	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R9125	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R9126	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R9127	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R9128	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R9130	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R9131	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R9132	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R9141	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R9147	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R9148	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R9149	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R9301	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R9302	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R9303	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R9304	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R9305	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R9306	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R9307	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R9308	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R9309	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R9310	NRSA63J-470X	MG RESISTOR	47Ω,1/16W
		R9311	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
		R9312	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
		R9313	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R9314	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R9315	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
		R9316	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
		R9317	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R9318	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
		R9320	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R9321	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
		R9322	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R9323	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R9324	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R9325	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R9326	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R9327	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R9328	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R9329	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R9330	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R9331	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R9332	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R9334	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
		R9335	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
		R9338	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
		R9340	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
		R9341	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
		R9343	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
		R9344	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
		R9345	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
		R9346	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
		R9347	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R9350	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R9351	NRSA63J-123X	MG RESISTOR	12kΩ,1/16W
		R9352	NRSA63J-681X	MG RESISTOR	680Ω,1/16W
		R9353	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		R9354	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R9355	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R9356	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R9359	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R9360	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
		R9363	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
		R9364	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
		R9365	NRSA63J-471X	MG RESISTOR	470Ω,1/16W
		R9367	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
		R9601	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R9604	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R9607	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R9610	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R9613	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R9616	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R9619	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R9622	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R9626	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R9627	NRSA63J-471X	MG RESISTOR	470Ω,1/16W
		R9628	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R9649	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R9650	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
		R9651	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
		R9652	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
		R9653	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
		R9654	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
		R9655	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
		R9656	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
		R9657	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
		R9658	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
		R9659	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
		R9660	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
		R9661	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
		R9662	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
		R9663	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
		R9664	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
		R9665	NRSA63J-203X	MG RESISTOR	20kΩ,1/16W
		R9666	NRSA63J-203X	MG RESISTOR	20kΩ,1/16W
		R9667	NRSA63J-203X	MG RESISTOR	20kΩ,1/16W
		R9668	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R9669	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
		R9670	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
		R9673	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
		R9674	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
		R9675	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
		R9676	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
		R9677	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
		R9678	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
		R9679	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
		R9680	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
		R9682	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R9801	NRSA63J-182X	MG RESISTOR	1.8kΩ,1/16W
		R9802	NRSA63J-182X	MG RESISTOR	1.8kΩ,1/16W
		R9803	NRSA63J-821X	MG RESISTOR	820Ω,1/16W
		R9804	NRSA63J-821X	MG RESISTOR	820Ω,1/16W
		R9805	NRSA63J-100X	MG RESISTOR	10Ω,1/16W
		R9811	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R9812	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R9813	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R9814	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R9815	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R9816	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R9817	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R9818	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R9819	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R9820	NRSA63J-302X	MG RESISTOR	3kΩ,1/16W
R9821	NRSA63J-302X	MG RESISTOR	3kΩ,1/16W
R9824	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R9825	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R9826	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
R9827	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
R9828	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
R9829	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
R9830	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R9831	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R9832	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R9833	NRSA63J-391X	MG RESISTOR	390Ω,1/16W
R9834	NRSA63J-391X	MG RESISTOR	390Ω,1/16W
R9835	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
R9836	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
VR8601	QVP0039-102Z	TRIM RESISTOR,CODEC AD Y IN	
RA8001	NRZ0040-473X	NET RESISTOR	47kΩ,1/16W
RA8002	NRZ0040-473X	NET RESISTOR	47kΩ,1/16W
RA8003	NRZ0040-473X	NET RESISTOR	47kΩ,1/16W
RA8004	NRZ0040-473X	NET RESISTOR	47kΩ,1/16W
RA8005	NRZ0040-470X	NET RESISTOR	47Ω,1/16W
RA8006	NRZ0040-470X	NET RESISTOR	47Ω,1/16W
RA8007	NRZ0040-470X	NET RESISTOR	47Ω,1/16W
RA8008	NRZ0040-473X	NET RESISTOR	47kΩ,1/16W
RA8009	NRZ0040-473X	NET RESISTOR	47kΩ,1/16W
RA8010	NRZ0040-473X	NET RESISTOR	47kΩ,1/16W
RA8011	NRZ0040-470X	NET RESISTOR	47Ω,1/16W
RA8012	NRZ0040-470X	NET RESISTOR	47Ω,1/16W
RA8013	NRZ0040-470X	NET RESISTOR	47Ω,1/16W
RA8014	NRZ0040-470X	NET RESISTOR	47Ω,1/16W
RA8015	NRZ0040-470X	NET RESISTOR	47Ω,1/16W
RA8016	NRZ0040-470X	NET RESISTOR	47Ω,1/16W
RA8017	NRZ0040-0R0X	NET RESISTOR	0Ω,1/16W
RA8601	NRZ0040-0R0X	NET RESISTOR	0Ω,1/16W
RA8602	NRZ0040-0R0X	NET RESISTOR	0Ω,1/16W
RA8603	NRZ0040-0R0X	NET RESISTOR	0Ω,1/16W
RA8604	NRZ0040-0R0X	NET RESISTOR	0Ω,1/16W
RA9001	NRZ0040-103X	NET RESISTOR	10kΩ,1/16W
RA9002	NRZ0040-103X	NET RESISTOR	10kΩ,1/16W
RA9003	NRZ0040-103X	NET RESISTOR	10kΩ,1/16W
RA9004	NRZ0040-103X	NET RESISTOR	10kΩ,1/16W
RA9005	NRZ0040-103X	NET RESISTOR	10kΩ,1/16W
RA9006	NRZ0040-103X	NET RESISTOR	10kΩ,1/16W
RA9301	NRZ0040-103X	NET RESISTOR	10kΩ,1/16W
RA9302	NRZ0040-103X	NET RESISTOR	10kΩ,1/16W
RA9303	NRZ0040-103X	NET RESISTOR	10kΩ,1/16W
RA9304	NRZ0040-103X	NET RESISTOR	10kΩ,1/16W
RA9305	NRZ0040-103X	NET RESISTOR	10kΩ,1/16W
RA9306	NRZ0040-103X	NET RESISTOR	10kΩ,1/16W
RA9307	NRZ0040-103X	NET RESISTOR	10kΩ,1/16W
RA9308	NRZ0040-0R0X	NET RESISTOR	0Ω,1/16W
RA9309	NRZ0040-0R0X	NET RESISTOR	0Ω,1/16W
RA9310	NRZ0040-0R0X	NET RESISTOR	0Ω,1/16W
RA9311	NRZ0040-0R0X	NET RESISTOR	0Ω,1/16W
RA9312	NRZ0040-0R0X	NET RESISTOR	0Ω,1/16W
RA9313	NRZ0040-0R0X	NET RESISTOR	0Ω,1/16W
RA9314	NRZ0040-0R0X	NET RESISTOR	0Ω,1/16W

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
RA9315	NRZ0040-0R0X	NET RESISTOR	0Ω,1/16W
RA9316	NRZ0040-0R0X	NET RESISTOR	0Ω,1/16W
RA9317	NRZ0040-0R0X	NET RESISTOR	0Ω,1/16W
RA9318	NRZ0040-0R0X	NET RESISTOR	0Ω,1/16W
RA9319	NRZ0040-0R0X	NET RESISTOR	0Ω,1/16W
RA9320	NRZ0040-103X	NET RESISTOR	10kΩ,1/16W
RA9321	NRZ0040-103X	NET RESISTOR	10kΩ,1/16W
RA9323	NRZ0040-103X	NET RESISTOR	10kΩ,1/16W
RA9324	NRZ0040-103X	NET RESISTOR	10kΩ,1/16W
RA9325	NRZ0040-103X	NET RESISTOR	10kΩ,1/16W
RA9326	NRZ0040-103X	NET RESISTOR	10kΩ,1/16W
RA9327	NRZ0040-103X	NET RESISTOR	10kΩ,1/16W
RA9328	NRZ0040-103X	NET RESISTOR	10kΩ,1/16W
RA9329	NRZ0040-103X	NET RESISTOR	10kΩ,1/16W
RA9330	NRZ0040-103X	NET RESISTOR	10kΩ,1/16W
RA9331	NRZ0040-103X	NET RESISTOR	10kΩ,1/16W
RA9332	NRZ0040-103X	NET RESISTOR	10kΩ,1/16W
RA9333	NRZ0040-103X	NET RESISTOR	10kΩ,1/16W
RA9601	NRZ0040-103X	NET RESISTOR	10kΩ,1/16W
RA9602	NRZ0040-103X	NET RESISTOR	10kΩ,1/16W
RA9603	NRZ0040-103X	NET RESISTOR	10kΩ,1/16W
RA9604	NRZ0040-103X	NET RESISTOR	10kΩ,1/16W
RA9605	NRZ0040-103X	NET RESISTOR	10kΩ,1/16W
RA9606	NRZ0040-103X	NET RESISTOR	10kΩ,1/16W
RA9607	NRZ0040-103X	NET RESISTOR	10kΩ,1/16W
RA9608	NRZ0040-103X	NET RESISTOR	10kΩ,1/16W
RA9609	NRZ0040-103X	NET RESISTOR	10kΩ,1/16W
RA9610	NRZ0040-103X	NET RESISTOR	10kΩ,1/16W
RA9611	NRZ0040-103X	NET RESISTOR	10kΩ,1/16W
RA9612	NRZ0040-103X	NET RESISTOR	10kΩ,1/16W
C8001	NDC31HJ-220X	CAPACITOR	22pF,50V
C8002	NDC31HJ-270X	CAPACITOR	27pF,50V
C8003	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
C8004	NCB31HK-103X	CAPACITOR	0.01μF,50V
C8005	NCB31HK-103X	CAPACITOR	0.01μF,50V
C8006	NCB31HK-103X	CAPACITOR	0.01μF,50V
C8007	NCB31HK-103X	CAPACITOR	0.01μF,50V
C8008	NCB31HK-103X	CAPACITOR	0.01μF,50V
C8010	NBE20JM-226X	T CAPACITOR	22μF,6.3V
C8101	NDC31HJ-100X	CAPACITOR	10pF,50V
C8102	NCB31HK-103X	CAPACITOR	0.01μF,50V
C8103	NCB31HK-103X	CAPACITOR	0.01μF,50V
C8104	NBE20JM-106X	T CAPACITOR	10μF,6.3V
C8105	NBE20JM-106X	T CAPACITOR	10μF,6.3V
C8106	NCB31HK-103X	CAPACITOR	0.01μF,50V
C8107	NCB31HK-103X	CAPACITOR	0.01μF,50V
C8108	NCB31HK-103X	CAPACITOR	0.01μF,50V
C8109	NCB31HK-103X	CAPACITOR	0.01μF,50V
C8110	NBE20JM-226X	T CAPACITOR	22μF,6.3V
C8111	NCB31HK-103X	CAPACITOR	0.01μF,50V
C8112	NBE20JM-226X	T CAPACITOR	22μF,6.3V
C8113	NDC31HJ-100X	CAPACITOR	10pF,50V
C8114	NCB31HK-103X	CAPACITOR	0.01μF,50V
C8115	NCF31CZ-224X	CAPACITOR	0.22μF,16V
C8116	NCF31CZ-224X	CAPACITOR	0.22μF,16V
C8121	NCF31CZ-104X	CAPACITOR	0.1μF,16V
C8127	NCB31HK-103X	CAPACITOR	0.01μF,50V
C8129	NEA70JM-476X	E CAPACITOR	47μF,6.3V
C8130	NCB31HK-103X	CAPACITOR	0.01μF,50V
C8131	NEA70JM-476X	E CAPACITOR	47μF,6.3V
C8141	NCF31CZ-104X	CAPACITOR	0.1μF,16V

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		C8147	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C8148	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C8149	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C8150	NEA71CM-476X	E CAPACITOR	47μF,16V
		C8151	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C8152	NBE20JM-226X	T CAPACITOR	22μF,6.3V
		C8162	NCB31EK-123X	CAPACITOR	0.012μF,25V
		C8163	NCB21AK-105X	CAPACITOR	1μF,10V
		C8164	NDC31HJ-100X	CAPACITOR	10pF,50V
		C8166	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C8167	NEA70JM-476X	E CAPACITOR	47μF,6.3V
		C8196	NBP21CM-105X	T CAPACITOR	1μF,16V
		C8197	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C8198	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C8199	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C8401	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C8402	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C8403	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C8404	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C8405	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C8406	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C8407	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C8408	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C8409	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C8410	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C8411	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C8412	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C8413	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C8414	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C8415	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C8416	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C8417	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C8418	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C8419	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C8422	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C8423	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C8424	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C8425	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C8426	NDC31HJ-470X	CAPACITOR	47pF,50V
		C8427	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C8428	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C8429	NDC31HJ-470X	CAPACITOR	47pF,50V
		C8430	NDC31HJ-470X	CAPACITOR	47pF,50V
		C8431	NDC31HJ-470X	CAPACITOR	47pF,50V
		C8432	NDC31HJ-470X	CAPACITOR	47pF,50V
		C8433	NDC31HJ-470X	CAPACITOR	47pF,50V
		C8434	NDC31HJ-470X	CAPACITOR	47pF,50V
		C8435	NDC31HJ-470X	CAPACITOR	47pF,50V
		C8436	NDC31HJ-470X	CAPACITOR	47pF,50V
		C8437	NDC31HJ-470X	CAPACITOR	47pF,50V
		C8438	NDC31HJ-470X	CAPACITOR	47pF,50V
		C8439	NDC31HJ-470X	CAPACITOR	47pF,50V
		C8440	NDC31HJ-470X	CAPACITOR	47pF,50V
		C8441	NDC31HJ-470X	CAPACITOR	47pF,50V
		C8442	NDC31HJ-470X	CAPACITOR	47pF,50V
		C8443	NDC31HJ-470X	CAPACITOR	47pF,50V
		C8444	NDC31HJ-470X	CAPACITOR	47pF,50V
		C8445	NDC31HJ-470X	CAPACITOR	47pF,50V
		C8446	NDC31HJ-470X	CAPACITOR	47pF,50V
		C8447	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C8448	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C8449	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C8450	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C8451	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C8452	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C8453	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C8454	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C8455	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C8456	NBE20JM-226X	T CAPACITOR	22μF,6.3V
		C8457	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C8458	NBE20JM-226X	T CAPACITOR	22μF,6.3V
		C8459	NBE20JM-226X	T CAPACITOR	22μF,6.3V
		C8460	NBE20JM-226X	T CAPACITOR	22μF,6.3V
		C8462	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		C8463	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C8464	NDC31HJ-100X	CAPACITOR	10pF,50V
		C8465	NDC31HJ-100X	CAPACITOR	10pF,50V
		C8601	NBE20JM-226X	T CAPACITOR	22μF,6.3V
		C8602	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C8603	NDC31HJ-8R0X	CAPACITOR	8pF,50V
		C8604	NDC31HJ-150X	CAPACITOR	15pF,50V
		C8605	NDC31HJ-390X	CAPACITOR	39pF,50V
		C8606	NDC31HJ-330X	CAPACITOR	33pF,50V
		C8607	NCB30JK-105X	CAPACITOR	1μF,6.3V
		C8608	NBE20JM-106X	T CAPACITOR	10μF,6.3V
		C8609	NEA70JM-107X	E CAPACITOR	100μF,6.3V
		C8610	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C8611	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C8612	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C8613	NDC31HJ-8R0X	CAPACITOR	8pF,50V
		C8614	NDC31HJ-150X	CAPACITOR	15pF,50V
		C8615	NDC31HJ-390X	CAPACITOR	39pF,50V
		C8616	NDC31HJ-330X	CAPACITOR	33pF,50V
		C8617	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C8618	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C8619	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C8620	NEA70JM-107X	E CAPACITOR	100μF,6.3V
		C8621	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C8622	NDC31HJ-330X	CAPACITOR	33pF,50V
		C8623	NDC31HJ-390X	CAPACITOR	39pF,50V
		C8624	NDC31HJ-150X	CAPACITOR	15pF,50V
		C8625	NDC31HJ-8R0X	CAPACITOR	8pF,50V
		C8626	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C8627	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C8628	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C8641	NBE20JM-106X	T CAPACITOR	10μF,6.3V
		C8642	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C8643	NDC31HJ-330X	CAPACITOR	33pF,50V
		C8644	NDC31HJ-390X	CAPACITOR	39pF,50V
		C8645	NDC31HJ-120X	CAPACITOR	12pF,50V
		C8646	NDC31HJ-8R0X	CAPACITOR	8pF,50V
		C8647	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C8648	NBE20JM-106X	T CAPACITOR	10μF,6.3V
		C8649	NBE40JM-476X	T CAPACITOR	47μF,6.3V
		C8650	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C8651	NBE20JM-226X	T CAPACITOR	22μF,6.3V
		C8652	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C8653	NCB30JK-105X	CAPACITOR	1μF,6.3V
		C8654	NCB30JK-105X	CAPACITOR	1μF,6.3V
		C8655	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C8656	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C8657	NCF31CZ-104X	CAPACITOR	0.1μF,16V

#	⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
	C8658	NBE20JM-106X	T CAPACITOR	10μF,6.3V
	C8659	NCF31CZ-104X	CAPACITOR	0.1μF,16V
	C8660	NBE20JM-106X	T CAPACITOR	10μF,6.3V
	C8661	NCB30JK-105X	CAPACITOR	1μF,6.3V
	C8662	NCB30JK-105X	CAPACITOR	1μF,6.3V
	C8663	NCF31CZ-104X	CAPACITOR	0.1μF,16V
	C8664	NCF31CZ-104X	CAPACITOR	0.1μF,16V
	C8665	NCF31CZ-104X	CAPACITOR	0.1μF,16V
	C8666	NCF31CZ-104X	CAPACITOR	0.1μF,16V
	C8667	NCF31CZ-104X	CAPACITOR	0.1μF,16V
	C8668	NCB30JK-105X	CAPACITOR	1μF,6.3V
	C8669	NCF31CZ-104X	CAPACITOR	0.1μF,16V
	C8670	NCF31CZ-104X	CAPACITOR	0.1μF,16V
	C8671	NCF31CZ-104X	CAPACITOR	0.1μF,16V
	C8672	NCF31CZ-104X	CAPACITOR	0.1μF,16V
	C8673	NCF31CZ-104X	CAPACITOR	0.1μF,16V
	C8674	NCF31CZ-104X	CAPACITOR	0.1μF,16V
	C8675	NCF31CZ-104X	CAPACITOR	0.1μF,16V
	C8676	NCF31CZ-104X	CAPACITOR	0.1μF,16V
	C8677	NCF31CZ-104X	CAPACITOR	0.1μF,16V
	C8678	NCF31CZ-104X	CAPACITOR	0.1μF,16V
	C8679	NCF31CZ-104X	CAPACITOR	0.1μF,16V
	C8680	NCF31CZ-104X	CAPACITOR	0.1μF,16V
	C8681	NCF31CZ-104X	CAPACITOR	0.1μF,16V
	C8682	NCF31CZ-104X	CAPACITOR	0.1μF,16V
	C8683	NCF31CZ-104X	CAPACITOR	0.1μF,16V
	C8684	NCF31CZ-104X	CAPACITOR	0.1μF,16V
	C8685	NCF31CZ-104X	CAPACITOR	0.1μF,16V
	C8686	NCF31CZ-104X	CAPACITOR	0.1μF,16V
	C8687	NCF31CZ-104X	CAPACITOR	0.1μF,16V
	C8688	NCF31CZ-104X	CAPACITOR	0.1μF,16V
	C8689	NCF21HZ-104X	CAPACITOR	0.1μF,50V
	C8690	NCF21HZ-104X	CAPACITOR	0.1μF,50V
	C8691	NCF21HZ-104X	CAPACITOR	0.1μF,50V
	C8692	NCF21HZ-104X	CAPACITOR	0.1μF,50V
	C8693	NBE20JM-226X	T CAPACITOR	22μF,6.3V
	C8694	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	C8695	QETJ0JM-477	E CAPACITOR	470μF,6.3V
	C8696	NDC31HJ-470X	CAPACITOR	47pF,50V
	C8697	NBE20JM-106X	T CAPACITOR	10μF,6.3V
	C8698	QETJ0JM-477	E CAPACITOR	470μF,6.3V
	C8700	NDC31HJ-100X	MG RESISTOR	10pF,50V
	C8701	NDC31HJ-100X	CAPACITOR	10pF,50V
	C8702	NDC31HJ-470X	CAPACITOR	47pF,50V
	C9001	NCF31CZ-104X	CAPACITOR	0.1μF,16V
	C9002	NCF31CZ-104X	CAPACITOR	0.1μF,16V
	C9003	NCF31CZ-104X	CAPACITOR	0.1μF,16V
	C9004	NBE20JM-106X	T CAPACITOR	10μF,6.3V
	C9005	NCB31HK-103X	CAPACITOR	0.01μF,50V
	C9006	NDC31HJ-200X	CAPACITOR	20pF,50V
	C9007	NDC31HJ-200X	CAPACITOR	20pF,50V
	C9008	NCF31CZ-104X	CAPACITOR	0.1μF,16V
	C9009	NCF31CZ-104X	CAPACITOR	0.1μF,16V
	C9010	NCF31CZ-104X	CAPACITOR	0.1μF,16V
	C9011	NCB31HK-103X	CAPACITOR	0.01μF,50V
	C9012	NCF31CZ-104X	CAPACITOR	0.1μF,16V
	C9013	NCF31CZ-104X	CAPACITOR	0.1μF,16V
	C9016	NCF31CZ-104X	CAPACITOR	0.1μF,16V
	C9017	NCF31CZ-104X	CAPACITOR	0.1μF,16V
	C9018	NCF31CZ-104X	CAPACITOR	0.1μF,16V
	C9019	NCF31CZ-104X	CAPACITOR	0.1μF,16V
	C9020	NCF31CZ-104X	CAPACITOR	0.1μF,16V
	C9021	NCF31CZ-104X	CAPACITOR	0.1μF,16V
	C9022	NCF31CZ-104X	CAPACITOR	0.1μF,16V
	C9023	NCF31CZ-104X	CAPACITOR	0.1μF,16V
	C9024	NCF31CZ-104X	CAPACITOR	0.1μF,16V
	C9025	NCF31CZ-104X	CAPACITOR	0.1μF,16V
	C9026	NCF31CZ-104X	CAPACITOR	0.1μF,16V
	C9027	NCB31HK-103X	CAPACITOR	0.01μF,50V
	C9028	NCB31HK-103X	CAPACITOR	0.01μF,50V
	C9029	NCB31HK-103X	CAPACITOR	0.01μF,50V
	C9030	NCB31HK-103X	CAPACITOR	0.01μF,50V
	C9031	NCB31HK-103X	CAPACITOR	0.01μF,50V
	C9032	NDC31HJ-470X	CAPACITOR	47pF,50V
	C9033	NDC31HJ-470X	CAPACITOR	47pF,50V
	C9034	NDC31HJ-470X	CAPACITOR	47pF,50V
	C9035	NDC31HJ-470X	CAPACITOR	47pF,50V
	C9036	NDC31HJ-470X	CAPACITOR	47pF,50V
	C9037	NDC31HJ-470X	CAPACITOR	47pF,50V
	C9038	NDC31HJ-470X	CAPACITOR	47pF,50V
	C9039	NDC31HJ-470X	CAPACITOR	47pF,50V
	C9040	NDC31HJ-470X	CAPACITOR	47pF,50V
	C9041	NDC31HJ-470X	CAPACITOR	47pF,50V
	C9042	NDC31HJ-470X	CAPACITOR	47pF,50V
	C9043	NDC31HJ-470X	CAPACITOR	47pF,50V
	C9044	NDC31HJ-470X	CAPACITOR	47pF,50V
	C9045	NDC31HJ-470X	CAPACITOR	47pF,50V
	C9046	NDC31HJ-470X	CAPACITOR	47pF,50V
	C9047	NDC31HJ-470X	CAPACITOR	47pF,50V
	C9048	NDC31HJ-470X	CAPACITOR	47pF,50V
	C9049	NDC31HJ-470X	CAPACITOR	47pF,50V
	C9054	NCF31CZ-104X	CAPACITOR	0.1μF,16V
	C9055	NBE20JM-226X	T CAPACITOR	22μF,6.3V
	C9057	NCF31CZ-104X	CAPACITOR	0.1μF,16V
	C9058	NCB31HK-103X	CAPACITOR	0.01μF,50V
	C9059	NCB31HK-103X	CAPACITOR	0.01μF,50V
	C9063	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	C9065	NCF31CZ-104X	CAPACITOR	0.1μF,16V
	C9066	NCF31CZ-104X	CAPACITOR	0.1μF,16V
	C9301	NBE20JM-226X	T CAPACITOR	22μF,6.3V
	C9302	NCB31HK-103X	CAPACITOR	0.01μF,50V
	C9303	NBE20JM-226X	T CAPACITOR	22μF,6.3V
	C9304	NCB31HK-103X	CAPACITOR	0.01μF,50V
	C9305	NCF31CZ-104X	CAPACITOR	0.1μF,16V
	C9306	NCF31CZ-104X	CAPACITOR	0.1μF,16V
	C9307	NCF31CZ-104X	CAPACITOR	0.1μF,16V
	C9308	NCF31CZ-104X	CAPACITOR	0.1μF,16V
	C9309	NCF31CZ-104X	CAPACITOR	0.1μF,16V
	C9310	NCF31CZ-104X	CAPACITOR	0.1μF,16V
	C9311	NCF31CZ-104X	CAPACITOR	0.1μF,16V
	C9312	NCF31CZ-104X	CAPACITOR	0.1μF,16V
	C9313	NCF31CZ-104X	CAPACITOR	0.1μF,16V
	C9314	NCF31CZ-104X	CAPACITOR	0.1μF,16V
	C9317	NDC31HJ-5R0X	CAPACITOR	5pF,50V
	C9319	NCB31HK-102X	CAPACITOR	0.001μF,50V
	C9320	NCB30JK-105X	CAPACITOR	1μF,6.3V
	C9322	NCB31HK-103X	CAPACITOR	0.01μF,50V
	C9327	NCB31HK-103X	CAPACITOR	0.01μF,50V
	C9329	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	C9330	NCB31HK-103X	CAPACITOR	0.01μF,50V
	C9331	NCB31HK-103X	CAPACITOR	0.01μF,50V
	C9332	NCB31HK-103X	CAPACITOR	0.01μF,50V

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
C9333	NCB31HK-103X	CAPACITOR	0.01μF,50V
C9334	NCB31HK-152X	CAPACITOR	0.0015μF,50V
C9335	NDC31HJ-101X	CAPACITOR	100pF,50V
C9336	NCF31CZ-104X	CAPACITOR	0.1μF,16V
C9337	NBE20JM-226X	T CAPACITOR	22μF,6.3V
C9339	NCB31HK-102X	CAPACITOR	0.001μF,50V
C9340	NCB31HK-103X	CAPACITOR	0.01μF,50V
C9341	NCB31HK-102X	CAPACITOR	0.001μF,50V
C9342	NDC31HJ-121X	CAPACITOR	120pF,50V
C9343	NDC31HJ-100X	CAPACITOR	10pF,50V
C9344	NCB31HK-103X	CAPACITOR	0.01μF,50V
C9345	NCB31HK-103X	CAPACITOR	0.01μF,50V
C9346	NDC31HJ-470X	CAPACITOR	47pF,50V
C9348	NCB31HK-103X	CAPACITOR	0.01μF,50V
C9601	NEA70JM-476X	E CAPACITOR	47μF,6.3V
C9602	NCB31HK-103X	CAPACITOR	0.01μF,50V
C9603	NEA71CM-476X	E CAPACITOR	47μF,16V
C9604	NCB31HK-103X	CAPACITOR	0.01μF,50V
C9605	NEA70JM-107X	E CAPACITOR	100μF,6.3V
C9606	NCB31HK-103X	CAPACITOR	0.01μF,50V
C9607	NEA71CM-476X	E CAPACITOR	47μF,16V
C9608	NCB31HK-103X	CAPACITOR	0.01μF,50V
C9609	NBE40JM-476X	T CAPACITOR	47μF,6.3V
C9610	NCB31HK-103X	CAPACITOR	0.01μF,50V
C9611	NBE40JM-476X	T CAPACITOR	47μF,6.3V
C9612	NCB31HK-103X	CAPACITOR	0.01μF,50V
C9613	NBE40JM-476X	T CAPACITOR	47μF,6.3V
C9614	NCB31HK-103X	CAPACITOR	0.01μF,50V
C9615	NBE40JM-476X	T CAPACITOR	47μF,6.3V
C9616	NCB31HK-103X	CAPACITOR	0.01μF,50V
C9617	NEA70JM-226X	E CAPACITOR	22μF,6.3V
C9618	NCB31HK-103X	CAPACITOR	0.01μF,50V
C9619	NBE40JM-476X	T CAPACITOR	47μF,6.3V
C9620	NCB31HK-103X	CAPACITOR	0.01μF,50V
C9621	NBE20JM-226X	T CAPACITOR	22μF,6.3V
C9623	NCB31HK-103X	CAPACITOR	0.01μF,50V
C9624	NCB31HK-103X	CAPACITOR	0.01μF,50V
C9625	NCB31HK-103X	CAPACITOR	0.01μF,50V
C9626	NCB31HK-103X	CAPACITOR	0.01μF,50V
C9627	NCB31HK-103X	CAPACITOR	0.01μF,50V
C9629	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
C9631	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
C9640	NCB31HK-103X	CAPACITOR	0.01μF,50V
C9641	NCB31HK-103X	CAPACITOR	0.01μF,50V
C9642	NCB31HK-103X	CAPACITOR	0.01μF,50V
C9643	NCB31HK-103X	CAPACITOR	0.01μF,50V
C9644	NCB31HK-103X	CAPACITOR	0.01μF,50V
C9645	NCB31HK-103X	CAPACITOR	0.01μF,50V
C9646	NCB31HK-103X	CAPACITOR	0.01μF,50V
C9647	NCB31HK-103X	CAPACITOR	0.01μF,50V
C9648	NCB31HK-103X	CAPACITOR	0.01μF,50V
C9649	NCB31HK-103X	CAPACITOR	0.01μF,50V
C9650	NCB31HK-103X	CAPACITOR	0.01μF,50V
C9651	NCB31HK-103X	CAPACITOR	0.01μF,50V
C9652	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
C9801	NEA71HM-105X	E CAPACITOR	1μF,50V
C9802	NEA71HM-105X	E CAPACITOR	1μF,50V
C9803	NCB31HK-152X	CAPACITOR	0.0015μF,50V
C9804	NCB31HK-152X	CAPACITOR	0.0015μF,50V
C9805	NCF31CZ-104X	CAPACITOR	0.1μF,16V
C9806	NCF31CZ-104X	CAPACITOR	0.1μF,16V
C9807	NBE20JM-475X	T CAPACITOR	4.7μF,6.3V
C9808	NBE20JM-475X	T CAPACITOR	4.7μF,6.3V
C9809	NCF31CZ-104X	CAPACITOR	0.1μF,16V
C9810	NBE20JM-226X	T CAPACITOR	22μF,6.3V
C9811	NCF31CZ-104X	CAPACITOR	0.1μF,16V
C9812	NBE20JM-475X	T CAPACITOR	4.7μF,6.3V
C9813	NCF31CZ-104X	CAPACITOR	0.1μF,16V
C9814	NBE20JM-226X	T CAPACITOR	22μF,6.3V
C9815	NCF31CZ-104X	CAPACITOR	0.1μF,16V
C9816	NEA70JM-476X	E CAPACITOR	47μF,6.3V
C9817	NCF31CZ-104X	CAPACITOR	0.1μF,16V
C9818	NEA71CM-476X	E CAPACITOR	47μF,16V
C9819	NCF31CZ-104X	CAPACITOR	0.1μF,16V
C9820	NBE20JM-106X	T CAPACITOR	10μF,6.3V
C9821	NBE20JM-106X	T CAPACITOR	10μF,6.3V
C9824	NCB31EK-682X	CAPACITOR	0.0068μF,25V
C9825	NCB31EK-682X	CAPACITOR	0.0068μF,25V
C9826	NCB31HK-332X	CAPACITOR	0.0033μF,50V
C9827	NCB31HK-332X	CAPACITOR	0.0033μF,50V
C9830	NCB31CK-104X	CAPACITOR	0.1μF,16V
C9831	NCB31CK-104X	CAPACITOR	0.1μF,16V
L8105	NQL024J-150X	COIL	15μH
L8111	NQL144K-100X	COIL	10μH
L8112	NQL144K-100X	COIL	10μH
L8113	NQL144K-100X	COIL	10μH
L8115	NQL144K-100X	COIL	10μH
L8116	NQL144K-100X	COIL	10μH
L8117	NQL144K-100X	COIL	10μH
L8401	NQL024J-100X	COIL	10μH
L8601	NQL024J-150X	COIL	15μH
L8602	NQL024J-330X	COIL	33μH
L8603	NQL144K-100X	COIL	10μH
L8604	NQL024J-150X	COIL	15μH
L8605	NQL024J-330X	COIL	33μH
L8606	NQL144K-100X	COIL	10μH
L8607	NQL024J-330X	COIL	33μH
L8608	NQL024J-150X	COIL	15μH
L8613	NQL024J-330X	COIL	33μH
L8614	NQL024J-150X	COIL	15μH
L8615	NQL144K-100X	COIL	10μH
L8616	NQL144K-100X	COIL	10μH
L8617	NQL024J-120X	COIL	12μH
L8803	NQR0337-001X	COIL	
L9301	NQL024J-R22X	COIL	0.22μH
L9302	NQL144K-100X	COIL	10μH
L9610	NQL144K-100X	COIL	10μH
L9801	NQL144K-100X	COIL	10μH
L9802	NQL144K-100X	COIL	10μH
LC8401	PELN1148-223X	NOISE FILTER	
LC9601	PELN1148-223X	NOISE FILTER	
LC9602	PELN1148-223X	NOISE FILTER	
LC9603	PELN1148-223X	NOISE FILTER	
LC9604	PELN1148-223X	NOISE FILTER	
LC9605	PELN1148-223X	NOISE FILTER	
LC9606	PELN1148-223X	NOISE FILTER	
LC9608	PELN1148-223X	NOISE FILTER	
X8001	QAX0383-001	CRYSTAL RESONATOR	
X8401	NAX0338-001X	CRYSTAL RESONATOR	
X9001	NAX0353-001X	CRYSTAL RESONATOR	
X9301	QAX0541-001	CRYSTAL RESONATOR	
K8001	PELN0984-150Y	NOISE FILTER	

#	⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
	K8002	PELN0984-150Y	NOISE FILTER	
	K8101	PELN0984-150Y	NOISE FILTER	
	K8401	PELN0968-600Y	NOISE FILTER	
	K8402	PELN0984-150Y	NOISE FILTER	
	K8403	NQR0339-001X	FERRAIE BEAD	
	K8404	NQR0339-001X	FERRAIE BEAD	
	K9001	PELN0984-150Y	NOISE FILTER	
	K9002	PELN0984-150Y	NOISE FILTER	
	K9301	PELN0984-150Y	NOISE FILTER	
	K9302	PELN0984-150Y	NOISE FILTER	
	K9303	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	K9304	NQR0129-002X	FERRITE BEAD	
	K9305	NQR0129-002X	FERRITE BEAD	
	K9306	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	K9307	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	K9308	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	K9309	PELN0984-150Y	NOISE FILTER	
	K9310	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	K9311	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	K9312	NQR0129-002X	FERRITE BEAD	
	K9313	PELN0984-150Y	NOISE FILTER	
	K9314	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	K9601	PELN0984-150Y	NOISE FILTER	
	K9603	PELN0984-150Y	NOISE FILTER	
	SD1	LP20850-001A	SHIELD CASE(DIGITAL)	
	SD2	LP20851-001A	SHIELD FRAME(DIGITAL)	
	SD3	LP20852-001A	SHIELD PLATE(DIGITAL)	
	OT1	LP40629-001A	SHEET(DIGITAL)	
	OT2	LP40614-001A	SPACER	
	OT3	PU43192-4	BINDER,X3	
	OT4	PU59915-105	#500 SPACER 0.01	
	OT5	PU59915-105	#500 SPACER 0.01,WR3	
	OT6	PU59915-110	#500 SPACER 0.014, Q9301	
	OT7	PU59915-105	#500 SPACER 0.01,WR4,5	
	OT8	PU59915-105	#500 SPACER 0.01,WR6	
	FL8101	NQR0336-001X	LOW PASS FILTER	
	WR1	YU40017-100-1	THIN WIRE	
	WR2	YU40017-140-1	WIRE	
	WR3	QUB560-14A1A4	SIN TWIST WIRE,Q9301	
	WR4	YU40017-035-3	THIN WIRE	
	WR5	YU40017-035-3	THIN WIRE	
	WR6	YU40017-210-1	THIN WIRE	
	WR100	QJJ016-094014	SIN CR C-C WIRE,MAIN	
	WR101	QJJ016-073812	SIN CR C-C WIRE,MAIN	
	WR102	QJN007-096021	SHI CR C-C WIRE,MAIN	
	WR103	QJJ016-044213	SIN CR C-C WIRE,MAIN	
	WR104	QJN008-067021	SHI CR C-C WIRE,S_SUB	
	WR105	QJJ013-035421	SIN CR C-C WIRE,REG	
	WR106	QJJ013-045411	SIN CR C-C WIRE,REG	
	WR107	QJJ001-064811	SIN CR C-C WIRE,REG	
	WR108	WJX0004-002A	E-COAXIAL ASSY,DP/R	
	WR109	QUD030-58CWCW	COAXIAL WIRE,DP/R	
	J8801	QNZ0415-001	D CONNECTOR	
	CN8001	QNN0161-001	PIN JACK,RCA MINI	
	CN8002	QNN0161-001	PIN JACK,RCA MINI	
	CN8601	QGA2001F2-06X	CONNECTOR,(1-6)3D SVHS	
	CN9001	QGA2001F2-09X	CONNECTOR,(1-9)MAIN	
	CN9002	QGA2001F2-04X	CONNECTOR,(1-4)SW REG	
	CN9003	QGA2001F2-07X	CONNECTOR,(1-6)SW REG	
	CN9004	QGF1211F1-04W	FPC CONNECTOR,(1-4)JIG	
	CN9005	QGF1211F1-05W	FPC CONNECTOR,(1-5)	

#	⚠ REF No.	PART No.	PART NAME, DESCRIPTION
	CN9601	QGA2001F2-03X	CONNECTOR,(1-3)SW REG
	CN9602	QGA2001F2-04X	CONNECTOR,(1-4)SW REG
	CN9603	QGA2001F2-06X	CONNECTOR,(1-6)SW REG
	CN9801	QGA2001F2-09X	CONNECTOR,(1-9)MAIN